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General Plan

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City of Redlands

CITY OF REDLANDS

1995 GENERAL PLAN

OCTOBER 1995

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REDLANDS GENERAL PLAN

1.0 SETTING AND ORGANIZATION OF THE GENERAL PLAN

1.10 Redlands: Past, Present, Future

From citrus boom town to the Victorian good life in California to threatened total absorption by the Southern California metropolis -- Redlands has maintained a strong image in a region and state where sameness is battering the defenses of freestanding towns. The City's site must have been an easy choice for founders Judson and Brown when they laid out the streets in 1881. Views, the railroads, the climate, ample water from the Bear Valley Reservoir and the beauty and profit of citrus brought Easterners with the time and money to create a beautiful city. By the time a catastrophic freeze struck in 1913, Redlands was a city of 20,000 with most of its architectural and cultural environment in place. When the pace of development resumed in the 20s, Redlands' quality image was the attraction.

Today's residents feel strongly about preserving Redlands' character and setting. New projects are debated, mistakes are remembered, and growth initiatives and open space bonds have been approved. During the 1980s, other Inland Empire communities experienced the growth pressures Redlands can expect during the next two decades. The General Plan describes the City its present residents believe should emerge.

1.20 The 1972 General Plan

This General Plan replaces a 1972 General Plan that was prepared at a time when General Plans had far less political and legal stature than they do today. The 1972 Plan sought to protect agriculture from premature encroachment, but did not envision any permanent open space other than parks and flood control areas at buildout (calculated at 160,000 persons). Major General Plan amendments occurred in conjunction with the adoption of the *East Valley Corridor Specific Plan* (1989), which increased employment capacity while reducing residential capacity, by the Southeast Area General Plan amendment (1987) which reduced density in San Timoteo and Live Oak canyons, and by numerous smaller changes.

1.30 Public Participation in the Plan-Making Process

Organized re-thinking of Redlands' future has been underway since 1987. Redlands 2000, a committee of 85 volunteers, conducted a survey (1,856 responses) and held discussions over an eight-month period. The Committee's report makes recommendations spanning the spectrum of local government issues. In 1988 the City conducted a Citizen Viewpoint Survey. The two surveys reached a self-selected 7 to 9 percent of Redlands households.

When work on General Plan revision began, the City Council appointed a 21-member General Plan Citizens Committee charged with making the decisions needed to prepare a revised draft General Plan for public hearings by the Planning Commission and City Council. Committee members (see list following title page) represent all geographic sectors of the City and a diverse spectrum of economic and cultural interests. Liaison members representing the Planning Commission, City Council, and other City commissions participated in meetings, but did not vote on issues. Opportunities for members of the public to address the Committee have been provided at all meetings.

As the Draft General Plan began to take shape, neighborhood meetings were scheduled throughout the City and Planning Area to explain the process and to solicit comment. The neighborhood meetings were well attended, and numerous comments on the proposed Draft General Plan were provided. Many of the citizens' concerns have been incorporated into the policies of the Draft General Plan. In addition to the neighborhood meetings, a number of community organizations requested presentations of the Draft General Plan. Presentations were made to the Redlands Chamber of Commerce, Redlands Kiwanis Club, Rotary Club, Optimist Club, and students at the University of Redlands.

1.40 Nature and Scope of the General Plan

A City's General Plan has been described as its development constitution -- the set of policies within which development regulations and decisions must fit. The General Plan is a statement of the community's vision of its long-term or ultimate physical form and development policies.

State law requires each city and county to adopt and maintain a General Plan. Actions relating to zoning, subdivision approval, housing allocations, and capital improvements must be consistent with the General Plan.

The Redlands General Plan is not simply a compendium of ideas, data and wishes: it consists of diagram (a drawing that shows arrangement and relationships) and carefully worded policies, accompanied by explanations needed to make the reasons for the policies clear. The Plan has three purposes:

1. To enable the Planning Commission and City Council to reach agreement on long-range development policies;

2. To provide a basis for judging whether specific private development proposals and public projects are in harmony with policies; and

3. To allow other public agencies and private developers to design projects that are consistent with City policies, or to seek changes in those policies through the process of amending the General Plan.

The Plan must be:

- **Long-range:** However imperfect our vision of the future is, almost any development decision has effects lasting more than 20 years. The Redlands General Plan is geared to ultimate development of the Planning Area.

- **Comprehensive:** It must coordinate all major components of the community's physical development. The relationship between land-use intensity and traffic is most obvious.

- **General:** Because it is long-range and comprehensive, the Plan must be general. The Plan's purpose is to serve as a framework for detailed public- and private-development proposals. It establishes requirements for additional planning studies where greater specificity is needed before the City can act on development proposals.

The General Plan is implemented by the decisions of the Planning Commission and City Council and by the zoning and subdivision ordinances, specific plans, redevelopment plans and the City's capital-improvement program.

The zoning ordinance includes detailed use classifications and standards. The zoning map must be consistent with the General Plan map, but it will not be identical to it. Specific Plans also must be consistent with the General Plan.

1.50 Using the General Plan Text and Diagram

The Plan text distinguishes adopted policies from information describing the reasons for a policy. *Guiding Policies* are the City's statements of its goals and philosophy. *Implementing Policies* represent commitment to consistent actions. *Implementing Policies* are as specific as is appropriate given the City's current level of knowledge and consensus on each issue. Adopted policy statements are printed in roman type; explanatory material appears in italics.

The General Plan Diagram (GP Section 4, Figure 4.1) depicts the desired ultimate land use and trafficways network. The Diagram must be used in conjunction with the Plan text. The Land Use Classifications (GP Section 4.0) explain the legend on the Diagram and specify density and intensity ranges for each category. A glossary at the end of this volume defines technical terms.

Where land is subdivided and largely built-out, the Diagram's use designations follow parcel boundaries or natural features.

Text policies may limit the density or intensity of development on a particular site in ways not apparent from the Diagram. For example, Plan policies protecting natural habitat or preserving steep slopes may prevent designated maximum density or intensity from being reached on some parcels. Regardless, the City has no obligation to approve projects at the maximum General Plan density or intensity. Residential density ranges are intended to bracket several zoning districts to be mapped at different locations within a General Plan classification. General Plan land use designations are applied to built-up areas that have been developed over time under changing regulations with a variety of densities and intensities. Consequently, the General Plan recognizes that nonconforming uses may already exist within a given land use designation and does not require their removal.

Commercial and industrial intensity standards in the General Plan Land Use Classifications represent theoretical maximums that, when combined with buildout assumptions, form a basis for determining traffic capacity and utilities service requirements. Zoning regulations that achieve the same result may use different measures.

1.60 Organization of the General Plan

California's General Plan Law is a product of the incremental nature of the legislative process. If literally followed, it creates confusion as to where some topics should be located and some duplication among the seven mandatory Plan elements. Fortunately, Government Code 65301(a) provides that a General Plan may be adopted in any format deemed appropriate by the legislative body as long as all topics are covered. The exception is the Housing Element which is required by State guidelines to contain extensive mandatory data and analysis as well as a five-year plan for meeting housing goals and objectives.

The content of the seven State-mandated elements (land use, circulation, open space, housing, conservation, safety and noise) as well as the optional elements of the Redlands General Plan is summarized below. Optional elements are noted in parentheses:

(2) **Growth Management Element** (Optional) incorporates policies for the amount and rate of growth and the timing of public improvements.

(3) **City Design and Preservation Element** (Optional) establishes policies for visual design at the citywide scale and policies for preservation of architectural resources.

(4) **Land Use Element** establishes land use classifications, sets densities and intensities for development and creates a pattern of land uses (including open space) illustrated by the General Plan Diagram.

(5) **Circulation Element** contains policies for freeways, arterials, collector streets, trails, bikeways, transit, transportation systems management, railroads, Redlands Airport, and utility corridors. A system of trafficways is illustrated on the General Plan Diagram.

(6) **Housing Element Summary** is an excerpt from the Housing Element, published separately, that includes all adopted policies designed to meet five-year housing needs for all income levels. The complete Housing Element also includes extensive data and analysis required by State law.

(7) **Open Space and Conservation Element** includes policies for management of four categories of open space lands, including parks, and prescribes policies for conservation of both natural and cultural resources. Parks and open space to be preserved are illustrated on the General Plan Diagram.

(8) **Health and Safety Element** (Optional Air Quality Element) consists of policies for water quality preservation and protection from fire hazards, drainage and flooding, seismic, geologic, and soils hazards, wind hazards, magnetic fields, airport aviation safety, and emergency management. Air quality policies are from a model Air Quality Element prepared for San Bernardino County cities.

(9) **Noise Element** projects future traffic noise and sets policies for mitigation of noise from all sources.

(10) **Human Services Element** (Optional) includes policies for senior services, youth services, and health services.

(11) **Economic Development Element** (Optional) provides a framework to develop and adopt policies and actions which affect the City's economy.

1.70 Keeping the General Plan Current

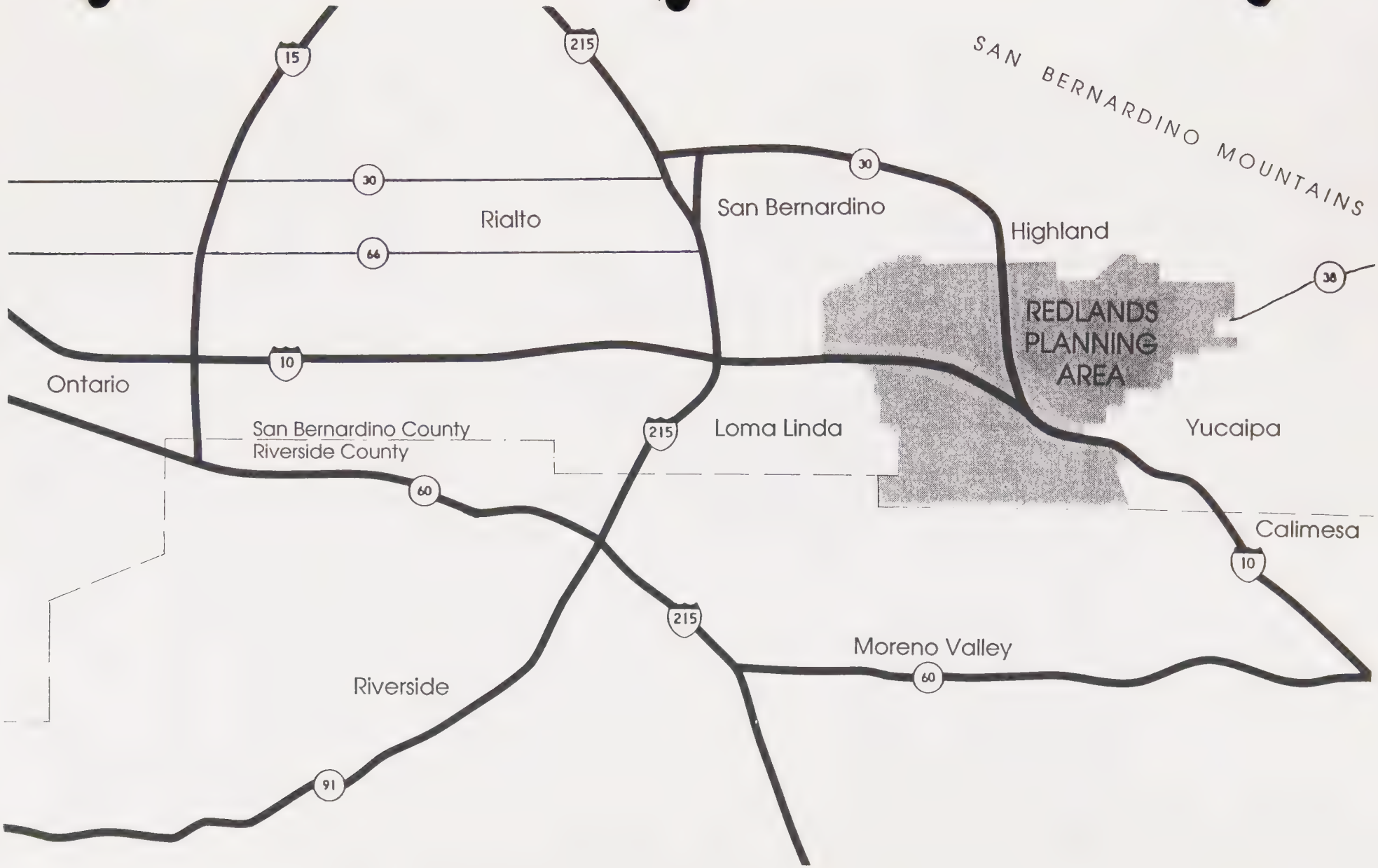
All public works projects, subdivision map approvals, and zoning text or map changes and Specific Plans must be consistent with the General Plan. From time to time, changes in policy as well as unforeseen opportunities or needs will require amendment of the General Plan. In an effort to prevent casual or automatic General Plan amendments, State law allows each mandatory element to be amended not more than four times per year, although there is no limit to the number of changes made during each amendment. Most requests are likely to be for map changes to the General Plan Diagram, but each must be screened to determine effects on text policies. An example would be the effect of a change of use on the General Plan's target housing mix.

1.80 Planning Context

Planning Area/Planning Sectors

Redlands is a city of 66,301 (1994) at the head of the San Bernardino Valley, 60 miles east of Los Angeles. Its Planning Area is bounded on the north by the Santa Ana Wash, the City of Highland, and the San Bernardino Mountains, on the east by the Crafton Hills and the City of Yucaipa, on the south by the Riverside County boundary and The Badlands, and on the west by the City of Loma Linda and the City of San Bernardino (San Bernardino International Airport). GP Figure 1.1 shows the regional location of the Redlands Planning Area.

Consistent with State law (Govt. Code 65301 (a)) Redlands has established a Planning Area boundary encompassing 52 square miles including territory outside its boundaries "which in its judgment bears relation to its planning." Within this boundary is the Sphere of Influence (SOI) defined as the ultimate service area established by the San Bernardino County Local Agency Formation Commission (LAFCO). The SOI could be expanded to include the entire Planning Area. Planning boundaries are shown on GP Figure 1.2.



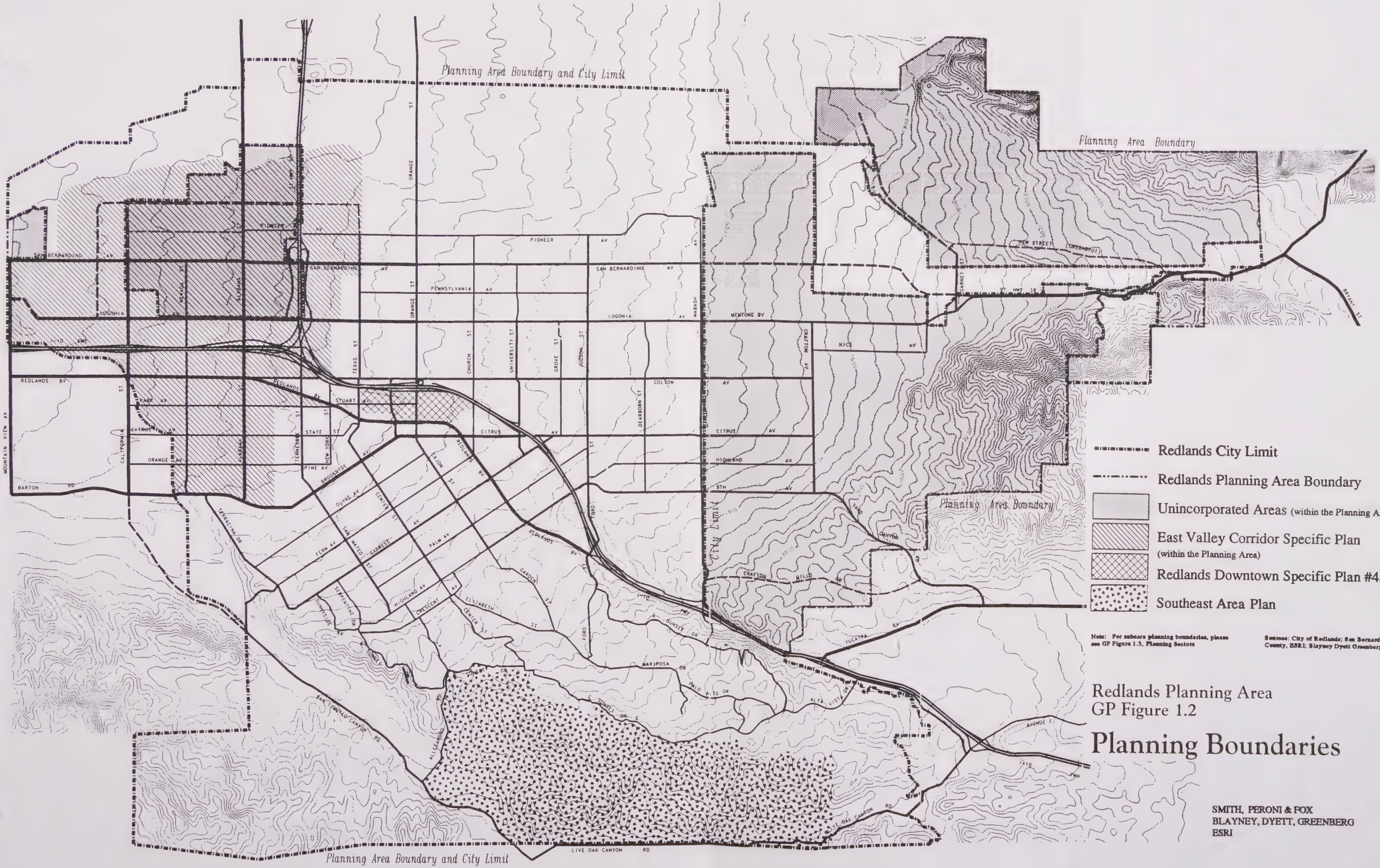
Redlands Planning Area
GP Figure 1.1

Not to Scale

Sources: Smith, Peroni & Fox

Regional Location

SMITH, PERONI & FOX


Planning Area Boundary and City Limit
Planning Area Boundary
Planning Area Boundary
Planning Area Boundary and City Limit
City Limit
Redlands City Limit
Redlands Planning Area Boundary
Unincorporated Areas (within the Planning Area)
East Valley Corridor Specific Plan (within the Planning Area)
Redlands Downtown Specific Plan #45
Southeast Area Plan
Note: For subarea planning boundaries, please see GP Figure 1.3, Planning Sectors
Sources: City of Redlands; San Bernardino County, ESRI; Blayney Dyett Greenberg
Redlands Planning Area
GP Figure 1.2
Planning Boundaries
SMITH, PERONI & FOX
BLAYNEY, DYETT, GREENBERG
ESRI
PIONEER AV
SAN BERNARDINO AV
LUGONIA AV
REDLANDS BV
STUART AV
CITRUS AV
COLTON AV
HIGHLAND AV
MENTONE BV
NICE AV
ORANGE ST
TEXAS ST
CHURCH ST
UNIVERSITY ST
GROVE ST
HUDSON ST
DEARBORN ST
WABASH
MOLSTRO
GARNET ST
BRYANT ST
MOUNTAIN VIEW AV
CALIFORNIA
ALABAMA
TENNESSEE
NEW YORK
STATE ST
PINE AV
BROOKSIDE
BARTON RD
TERRACINA DR
OLIVE AV
CENTER ST
PALM AV
FERN AV
SAN MATEO
CRESCENT
HIGHLAND AV
SERPENTINE DR
SUNSET DR
ELIZABETH
GARDEN ST
FORD
FAIRON ST
MARIPOSA DR
PALO ALTO DR
ALTA VISTA DR
CRAFTON HILLS
CANYON
TUCUYA BV
SAN TIMOTEO CANYON RD
ALESANDRO
LIVE OAK CANYON RD
AVENUE F
I-10
NEW STREET
ST HWY 38

The City's authority to regulate development is limited to the corporate limits, but San Bernardino County General Plan policies commit the County to support annexation of land designated for urban development.

The Planning Area is divided in seven planning sectors to facilitate description. (See GP Figure 1.3 Planning Sectors and Traffic Analysis Zones.) Planning sectors are aggregations of the 73 Traffic Analysis Zones (TAZs) which are the data units used for land use and traffic analysis.

General Plans of Adjoining Jurisdictions

The plans of agencies that set development policy adjoining the Redlands Planning Area or within it have obvious effects on the Redlands General Plan and are described below.

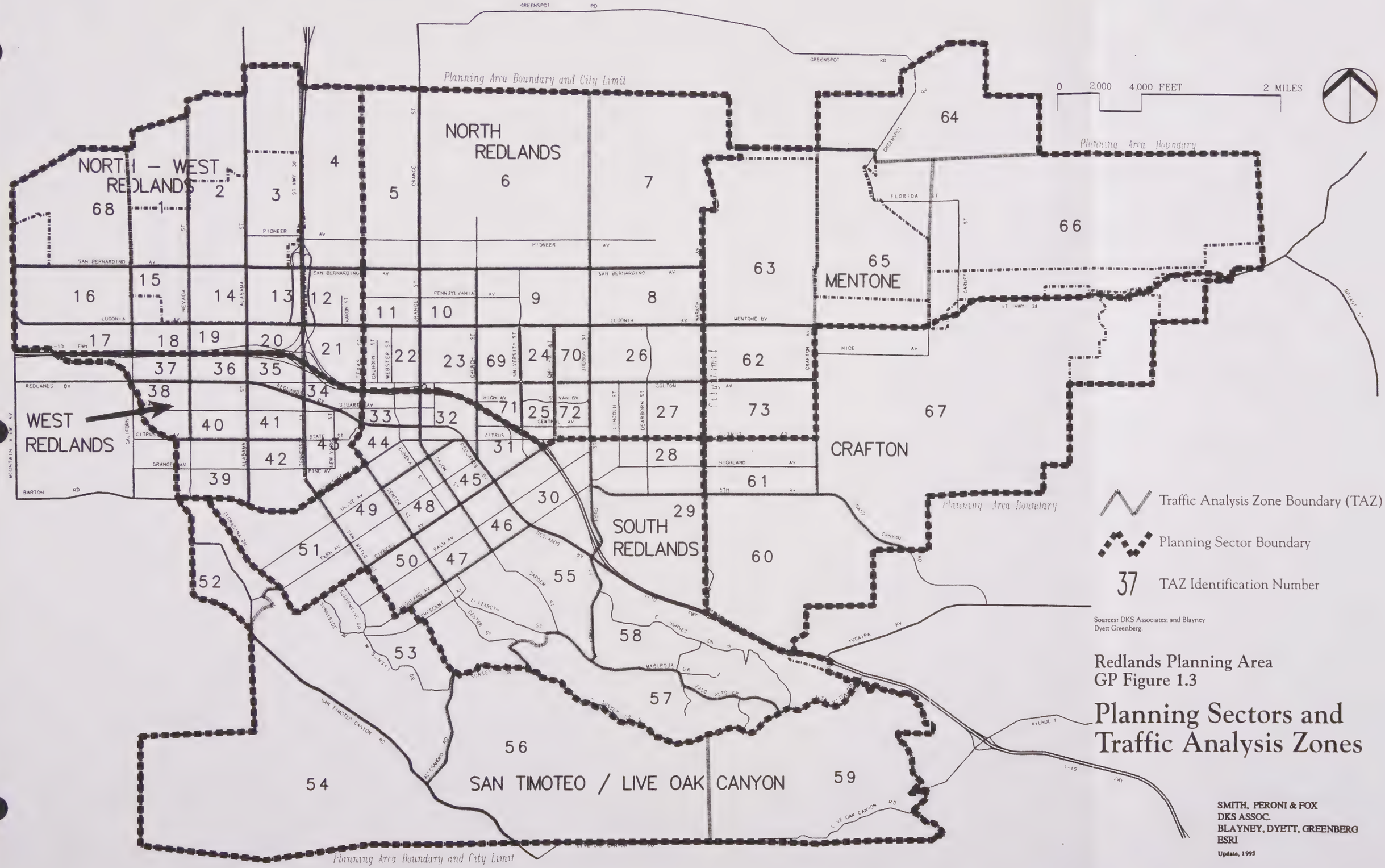
San Bernardino County. As revised in 1993, the County plan supports City policies within the Redlands Sphere of Influence, although entitled but unbuilt projects are inconsistent with the Redlands General Plan. The County's General Plan states that consideration will be given to designate sphere of influence areas on the County's land use maps as Special Planning areas. Also, efforts will be made to utilize City standards for development in these areas. The County plan, which formerly would have held a population of more than 50,000 in the Mentone and Crafton sectors now includes substantial acres at rural living densities of 5 and 10 acres per housing unit. The circulation element, which has not been revised, designates Crafton Avenue as a major arterial extending to the Greenspot Road and Garnet Street as a minor arterial extended south along the base of the Crafton Hills.

City of San Bernardino. West of Mountain View Avenue the General Plan adopted in June 1989 calls for residential development at 14 units per acre adjoining I-10 Freeway, nine per acre along most of the Mountain View frontage, and heavy industry along the Santa Ana River. The area is highly developed.

San Bernardino International Airport. The property is currently being marketed for airport and industrial re-use by the Inland Valley Development Agency which collects property tax increment from an area that includes the unincorporated 'donut hole' in the East Valley Corridor portion of the Redlands Planning Area.

City of Highland. The Santa Ana River Wash separates Redlands and Highland, which incorporated in 1987. Significant pressure to develop mineral extraction operations in the wash, as well as potential development to build into the flood plain, may be a source of conflict with the City of Redlands. Both cities should work closely with each other and the County Flood Control and Water Conservation District to preserve natural resources and ensure public safety. The Circulation Element of its first General Plan proposes eastward extension of Base Line Street which would turn south across the Santa Ana Wash to connect to Crafton Avenue as proposed by the San Bernardino County Circulation Element.

City of Yucaipa. The City of Yucaipa adopted a General Plan in September of 1992. Of particular interest to the City of Redlands is the Planned Development (PD) land use designation for the area south of the I 10 freeway and east of the Live Oak Canyon Road, which Yucaipa has zoned for a master planned development which may mix residential and commercial uses. Adjacent to the City of Redlands, in the Crafton Hills area, Yucaipa has approved a 59 lot PD fronting Bryant Street and Mill Creek Road and has dedicated open space to conform with the Crafton Hills Conservancy proposal. The City also adopted a Hillside Slope Ordinance in July of 1991 which restricts development on properties with an average hillside slope of 15% or greater. Crafton Hills Drive, a limited access collector, is a proposed link between Redlands and Yucaipa. Within Yucaipa, recorded Tract 12222 proposes a connection of Crafton Hills Drive with Sand Canyon Road. The City of Redlands is currently studying Wabash to locate the western terminus of Crafton Hills Drive.



Sources: DKS Associates; and Blayney Dyett Greenberg.

Redlands Planning Area
GP Figure 1.3

Planning Sectors and Traffic Analysis Zones

SMITH, PERONI & FOX
DKS ASSOC.
BLAYNEY, DYETT, GREENBERG
ESRI
Update, 1995

City of Loma Linda. Redlands' westside neighbor proposes a mixed use, Hotel/Retail development north of Barton Road and residential development to the south with single-family detached subdivision densities declining as the slope increases. A firm boundary between the Redlands and Loma Linda spheres of influence was established in 1990. Loma Linda's General Plan is presently under revision and the use of about 600 acres adjoining Redlands has not been designated at this time. Currently, a residential designation has been used for development proposals for this area at 2.7 units per acre. However, Loma Linda is investigating a residential specific plan which may consider up to 5-6 units per acre. This may have potential conflict with the Redlands Land Use Plan. Another possible dispute could arise over the alignment of San Timoteo Canyon Road. SANBAG has proposed five alternatives for connection from the East Valley Corridor to Moreno Valley area. Both jurisdictions will need to work with the regional agency to resolve alignment issues regarding this roadway.

Riverside County. The Riverside County line is an arbitrary boundary to the Planning Area, running a few feet either side of Live Oak Canyon Road for several miles east of San Timoteo Canyon Road. Oak Valley, a 10-square-mile "new town" approved in 1988 by Riverside County extending along the County line and Beaumont, would have about 45,000 residents and 34,000 jobs if built-out. This project has been experiencing financial difficulties due to the current economic slowdown. A golf course, but no residential units, has been built as of 1995. Riverside County's Multiple Species Habitat Conservation Plan is an unadopted draft plan still under revision and downsizing. This plan could affect areas to the west of Oak Valley adjoining the Redlands Planning Area with possible preservation of the Badlands.

City of Moreno Valley. The City of Moreno Valley is located in the County of Riverside and may extend its sphere of influence and/or city limits to adjoin the City of Redlands sometime in the future. The proposed designation may be hillside residential or rural residential which can have densities ranging from one-half acre to ten acres.

City of Calimesa. The City of Calimesa is located in the County of Riverside and has city limits and sphere of influence areas that adjoin the City of Redlands to the south of Live Oak Canyon Road. Calimesa's General Plan, adopted in 1994, designates this area as a natural resource to the community and region. Development within the natural resource categories is limited to protect and to retain the natural environment. The areas adjoining the Redlands Planning Area are designated Open Space Residential (OSR) and Open Space (OS). These designations are generally consistent with land uses proposed for Live Oak Canyon.

Southern California Association of Governments (SCAG). The Regional Comprehensive Plan and Guide (1989) serves as the basis for housing allocations that must be incorporated in the Redlands Housing Element. The Regional Mobility Element, incorporated into the Regional Comprehensive Plan, affects funding for major transportation projects which are important to Redlands. SCAG calls for a 3.4 percent average annual increase in housing in the East San Bernardino Valley between 1990 and 2010, but projects a 4.1 percent average annual increase in employment.

SCAG requires local agencies to meet the requirements of several regional plans aimed at reducing impacts on various issues, including but not limited to, growth (Jobs/Housing/Population), transportation, air quality, energy, water resources, and waste management. These are briefly described below.

1989 Growth Management Plan

The purpose of the Growth Management Plan (GMP) is to encourage local land use actions which could ultimately lead to development of an urban form that will help minimize development costs, save natural resources, and enhance quality of life in the region. Goals of the GMP aim at enabling individuals to spend less income on housing, enable firms to be more competitive, minimize public and private development costs, preserve open space and natural resources, attain mobility and clean air quality, avoid economic and social polarization, and accommodate a diversity of life styles. The GMP is concerned with achieving a balance

between the availability of jobs and the provision of housing on a sub-regional basis. The GMP classifies the San Bernardino Valley area as a jobs poor/housing rich region. Consistency with this plan is discussed in the Housing Element.

Regional Mobility Element (RME)

This element is the principal transportation policy, strategy and objective statement of SCAG. It proposes a comprehensive strategy for achieving mobility and air quality mandates. The RME lists the planned improvement to transportation facilities that the County Transportation Commission, the state, and other agencies have committed to fund over the next twenty years to provide better mobility of people and goods. In terms of impacts resulting from the Redlands General Plan update, the relevant portions of the RME state that:

- adequate capacity must exist in the subregion transportation network to absorb said development,
- that funds must be generated to pay for required improvements, and
- that all measures must be taken to reduce person trips, vehicle trips and peak hour traffic.

The RME is further discussed in the Traffic Technical Appendix of the General Plan Master Environmental Assessment.

Regional Housing Needs Assessment (RHNA)

The Department of Housing and Urban Community Development (HCD) is required to provide SCAG with their determinations of existing and projected housing needs by economic group. These determinations identify the SCAG region's share of the statewide need for housing and are intended for use in developing a new regional housing needs plan. Currently, the State has suspended the mandate to prepare regional housing needs plans and contends that SCAG may wish to prepare a 1995 regional housing needs plan. In response to this suspension, SCAG has used the same projections in 1989 and extended the time-frame of five years to the year 1996. Consistency with current RHNA numbers is discussed in the Housing Element. When HCD terminates the suspension, SCAG will review their regional housing stock and update their needs accordingly.

1989 Hazardous Waste Plan

The need for development of county and regional plans was triggered by state and federal laws that mandated the phase-out of landfill disposal of untreated hazardous wastes by the 1990's. The Hazardous Waste Plan of 1989 was prepared under the direction of the Southern California Hazardous Waste Management Authority (SCHWMA). This plan is designed to assist the region's counties and cities, the regional councils of government, and the state, in their individual efforts to plan for current and future hazardous waste management requirements. The plan facilitates the locating of facilities needed to manage hazardous waste generated by the member jurisdictions and promotes hazardous waste disposal sites in industrial areas where such waste is generated. Consistency with this plan is discussed in Section 7.24, Waste Management and Recycling.

1989 Air Quality Plan

Air quality impacts in Southern California have been a concern due to the continued degradation of clean air. This plan identifies transportation, land use and energy conservation measures aimed at reducing air pollution and conserving the environment. A determination of the project's consistency with AQMP is based on whether the proposed project meets conformity criteria including whether the:

- project improves the region's jobs/housing balance,
- project demonstrates that vehicle trips and vehicle miles generated have been reduced to the greatest extent feasible, and
- EIR demonstrates that the project will not have a long-term negative impact on regional air quality.

The proposed project, as mitigated, is deemed consistent with the AQMP in that it is not defined by the AQMP as a significant project.

1989 California Integrated Waste Management Act (AB 939)

Assembly Bill 939 (California Integrated Waste Management Act) was passed by the California Legislature in 1989 to address the solid waste issue. As initially approved, this act requires local governments to prepare comprehensive plans to reduce the amount of solid waste generated in their jurisdictions and disposed of in all landfill or other means by 25 and 50 percent by the years 1995 and 2000, respectively. This act addresses issues associated with meeting solid waste management goals in Southern California. Various regulatory changes have occurred since that time amending the requirements of the initial Bill. Consistency with this plan is discussed in Section 7.24, Waste Management and Recycling and EIR Section 16.8, Waste Management.

1.90 Themes of the General Plan

The General Plan includes a city design and more than 100 policies that elaborate six broad themes:

A Freestanding City. City limits are all but invisible in most of the Southern California Metropolis. Redlands is one of the few cities that still has a chance to maintain highly perceptible edges. The Santa Ana Wash on the north, Crafton Hills on the east, and Live Oak and San Timoteo canyons on the south. The west edge is not so clearly defined. Its continued visibility will depend largely on preservation of citrus groves at the most prominent locations.

Citrus Heritage. Maintaining citrus groves within the Planning Area as an aesthetic asset to the City and a reminder of Redland's beginnings as a major citrus producer is another one of the Plan's goals.

Small Town Feeling. Always number one in opinion surveys of communities in urban California, this trait is taken to mean uncrowded, friendly, small scale, and with a strong presence of nature. The General Plan provides for two communities. The East Valley Corridor will be handsome, but clearly not small town. South of Interstate 10 at Orange Street, a downtown scaled to three stories maximum, bordered by historic residential neighborhoods and a classic small university campus create a different world.

Sense of History. Landmark buildings and modest bungalow neighborhoods, the Zanja, and citrus groves are anchors that pull against the constant demand to declare everything old "obsolete." The Plan offers continuity with the past as a major ingredient of Redlands' spirit.

Quality in North and South. As in many cities, public and private amenities have not been evenly distributed in Redlands. The goal of this General Plan is to evenly distribute amenities throughout the City.

Revenues to Support Facilities and Services. Themes that lift the spirit will prevail only if the funds to operate a quality city are available. From the Smiley brothers' time to the present, Redlands donors and taxpayers have been willing to pay for quality, and new development must be asked to contribute a fair share toward maintaining the tradition. Jobs in the East Valley Corridor are expected to enhance both the City's fiscal health and the incomes of Redlands' residents.

2.0 GROWTH MANAGEMENT ELEMENT

REDLANDS GENERAL PLAN

2.0 GROWTH MANAGEMENT ELEMENT

The General Plan provides for buildout of the Redlands Planning Area. Growth management policies apply to development within the City of Redlands and state the City's position regarding development in the presently unincorporated portions of the Planning Area. The policies are intended to implement the Plan's land use proposals, maintain adequate public services, and ensure fiscal balance during the buildout period.

Growth-Rate Limitation: Measure N, a zoning ordinance that amended Proposition R, allows a maximum 400 dwelling units to be added to the City each year. Up to 50 of the units are to be single-family homes on existing lots, with the remainder to be allocated according to a point system.

Measure N, a zoning ordinance, provides that sewer or water service may be extended to an additional 150 units per year (no carry over) within the Sphere of Influence, consistent with the City's General Plan.

Density Limitation: Under Measure N, a zoning ordinance, no land designated by the General Plan as urban reserve as of June 1, 1987 is to be redesignated for a higher density than one dwelling unit per 14,000 square feet of net site area, except by a four fifths vote of the City Council with findings of "no significant adverse environmental impact."

Current City policy specifies maximum density on slopes of 15 to 30 percent at one unit per two and one half acres and, on slopes exceeding 40 percent, one unit per 10 acres. On slopes between 30 and 40 percent, required site area increases approximately proportionally from five acres to 10 acres per unit depending on slope and soil type.

Annexation: The City has prepared a plan for the ultimate development of the Sphere of Influence and approves annexations only if they are consistent with the Plan.

Continued development of the Planning Area will be influenced by demographic characteristics within the City and surrounding environs including the cities of San Bernardino, Loma Linda, Highland, Yucaipa, Calimesa, and unincorporated lands.

While growth limitations aim to control development at a slow rate, urban expansion of the Planning Area will continue and help support the population with additional jobs and housing. The following is a brief overview of the Planning Area regarding population, housing and employment. For additional detailed information on these topics, please refer to the Land Use and Housing Elements.

Population

According to the 1990 Census, the County of San Bernardino had a population of 1,418,380. The Department of Finance updated this figure in 1994 to 1,591,800. In 1990, the City of Redlands had a population of 60,394. As of 1994, this figure increased to 66,301.

According to the Census and the Department of Finance, Population Growth for the City of Redlands and San Bernardino County, is shown below between 1970-94 in Table 2.1.

Table 2.1
Population Growth for the City of Redlands and County of San Bernardino
1970-94

Year	1970	1980	%	1990	%	1994	%
Jurisdiction							
City of Redlands	36,374	43,619	19.0	60,394	38.4	66,301	9.7
San Bernardino County	681,092	895,016	31.4	1,418,380	58.4	1,591,800	12.2

Source: 1970, 1980, 1990 Census; Department of Finance, California Annual Population and Housing Data, Demographic Research Unit, January 1994.

As can be seen, population in the City of Redlands has grown over the last twenty-four (24) years. Based on Department of Finance data, the average annual growth rate between 1980-90 and 1990-94 was 3.8 and 2.4 percent, respectively. Based on existing population, projected number of dwelling units and persons per household, it is estimated that the City of Redlands will have a population of 101,644 people at buildout.

Regionally, from 1970 to 1990, the County of San Bernardino had a growth rate of 44.9 percent.[1] As of 1994, the County of San Bernardino had a population of 1,591,800.[2] According to the Southern California Association of Governments' (SCAG's) Regional Comprehensive Plan and Guide, adopted in January of 1995, it is estimated that the County of San Bernardino will have a population of 2,469,000 people by the year 2010.

Housing

According to the 1990 Census, the Planning Area (City of Redlands and Sphere of Influence) had a total of 26,362 dwelling units. Between 1991 and 1994, the City of Redlands recorded an increase of 544 dwelling units, an increase of 2.0 percent, bringing the total to 26,906.[3] It is projected that total housing units for the City of Redlands at buildout of the General Plan will be 36,414.

According to the 1990 Census, the County of San Bernardino had a total of 474,737 dwelling units. Between 1991 and 1994, the County of San Bernardino recorded a decrease of 23,384 dwelling units, bringing the total to 451,353. Although housing units were constructed within the County, the number of dwelling units decreased due to annexations by other cities. It is projected that total housing units for the County of San Bernardino in the year 2010 will be 916,000.

According to the Department of Finance, the persons per household in 1990 for the City of Redlands was 2.61 and increased to 2.76 in 1994. Compared to the County of San Bernardino for the same years respectively, persons per household were 2.89 and 3.10.

[1] 1970, 1980, 1990 Census.
[2] Department of Finance, California Annual Population and Housing Data, Demographic Research Unit, January 1994.
[3] First American Title Ins., Dataquick Information Network Report, March 1995.

Table 2.2, Housing Growth for the City of Redlands and County of San Bernardino, shows figures for changes in housing between 1990-94.

Table 2.2
Housing Growth for the City of Redlands and County of San Bernardino
1990-94

Jurisdiction	1990	1994	%
City of Redlands	26,362	26,906	2.0
San Bernardino County	474,373	451,353	-4.8

Source: 1990 Census; Department of Finance, California Annual Population and Housing Data, Demographic Research Unit, January 1994.

Employment

The majority of employment opportunities within the Planning Area are currently associated with agriculture, retail and professional/office. The number of jobs actually within the Planning Area are estimated to be lower than the number of dwelling units.

Employment numbers for the City of Redlands for 1990 were calculated using existing square footages for commercial and industrial uses and multiplied by conversion factors taken form the RIVSAN CTP Model Consistency Checklist. In 1990, the City of Redlands had approximately 20,549 employees. Employment figures for 1994 were calculated using the same method. In 1994, the City of Redlands had approximately 26,483 employees. For the year 2010, employment projections were calculated using SCAG data from the RIVSAN CTP Model. It is estimated that the City of Redlands will have approximately 57,199 employees by the year 2010.

According to the Southern California Association of Governments' Regional Comprehensive Plan and Guide, the County of San Bernardino had approximately 488,000 people employed in 1990. This figure increased to 526,400 by the year 1994, an increase of 8.0 percent. It is projected that the County of San Bernardino will employ approximately 888,000 people by the year 2010.

Table 2.3, Employment Growth for the City of Redlands and County of San Bernardino, shows figures for employment growth between 1990-94.

Table 2.3
Employment Growth for the City of Redlands and County of San Bernardino
1990-94

Jurisdiction	1990	1994	%
City of Redlands	20,549	26,483	28.5
San Bernardino County	488,000	526,400	8.0

Source: Southern California Association of Governments' Regional Comprehensive Plan and Guide, 1994; Department of Finance, California Annual Population and Housing Data, Demographic Research Unit, January 1994.

Overall, the City of Redlands will continue to accommodate its population by providing sufficient housing and employment opportunities within the Planning Area. This decrease in growth is anticipated to help the City of Redlands balance housing with the number of jobs so as to maintain consistency with the Growth Management Policies in the Regional Comprehensive Plan and Guide prepared by the Southern California Association of Governments. The following are guiding and implementing policies aimed at controlling growth.

Guiding Policies: Growth Management

2.0a Development within the Planning Areas shall be consistent with the net density of development as provided for in the General Plan.

The General Plan is designed to accommodate "ultimate development" of the Sphere of Influence. This does not mean that the General Plan should never be changed; however any modification should be consistent with the overall themes, goals, and policies of the General Plan.

2.0b Provide for expansion of housing and employment opportunities while avoiding deterioration of the quality of life associated with rapid growth.

2.0c Encourage annexation to the City of all land developed or to be developed within the Redlands Planning Area.

San Bernardino County General Plan policies support annexation of land designated for urban development.

2.0d Encourage programs that will enable concurrent provision of necessary urban services prior to approval of development projects requiring services.

Implementing Policies: Growth Management

2.0e Encourage and promote orderly development and growth of urban areas while maintaining and encouraging the best possible use of agricultural land, protecting it against premature encroachment of non-agricultural development. Consider the costs of extending urban facilities and services in the review of urban development.

2.0f Support San Bernardino County in implementation of policies LU-9d. and e. of the County General Plan as follows:

"d. Support City annexations/incorporations of urban designated lands.
e. Recognize and implement growth control limits adopted by cities as they apply to spheres."

LU-9 e. (Support annexations/incorporations of urban designated lands), and LU-9 f. (Recognize and implement growth control limits adopted by cities as they apply to spheres) are commitments essential to implementation of the Redlands General Plan.

3.0 CITY DESIGN AND PERSERVATION ELEMENT

REDLANDS GENERAL PLAN

3.0 CITY DESIGN AND PRESERVATION ELEMENT

While the General Plan is designed to meet readily measurable needs such as acceptable traffic flow and a range of housing types, its broader purpose is to preserve and create an urban environment that enables people to feel good about living and working in Redlands. It is appropriate that the design component of the General Plan precede the land use component. The intent is to address design issues at the City scale as distinct from the project scale. City Design and Preservation policies, together with the General Plan Diagram, call for both change and preservation.

Redlands' image is derived from its rich agricultural and architectural heritage. Large groves at all edges and remnant groves throughout the City are constant reminders of an agrarian past. The care and effort that created the City is evident at many scales, from the well-crafted stone curbs to the exquisitely detailed buildings. A diversity of landforms within the Planning Area has defined Redlands and made its form understandable. Few Southern California communities can lay claim to the sense of place and history Redlands has managed to retain during a century of development.

The City Design section of this element is concerned mainly with new development, while the focus of the Historic and Scenic Preservation section is on designated conservation areas and historic districts.

3.10 <u>City Design</u>

North Redlands

Two prominent visual assets are the view from the Santa Ana River Bluff of the San Bernardino Mountains and the University of Redlands. With careful planning additional amenities can be included in North Redlands to include the five amenities presented below:

- Plant trees on arterials, giving priority to Lugonia Avenue and San Bernardino Avenue. Tree rows will create a series of partially enclosed "urban rooms," will shrink apparent street widths, and will reduce summer temperatures. (See Policy 3.10.q)

- Maximize agricultural preservation. Citrus and other agricultural preservation should be retained where feasible for its aesthetic and biotic value as well as its contribution as the City's original economic base. North Redlands has extensive unsubdivided frontages along which citrus can continue to be efficiently farmed, buffering arterial streets without requiring a reduction in density. (See Section 4.0 Land Use and 7.0 Open Space and Conservation Elements)

- Complete the blufftop Scenic Drive bordering the Santa Ana Wash between Alabama Street and Judson Street. View turnouts with classic balustrades and native planting should mark the edge. (See Policy 3.10t.)

- Develop more imageable residential neighborhood street patterns. Require a street design for all unsubdivided land within each superblock bounded by arterial streets prior to subdivision approval. (See Policy 3.10p.)

Mentone

Re-subdivision of the 1887 lot pattern created by the Santa Fe Railroad has made Mentone a community of great variety -- the opposite of a cookie-cutter subdivision. Its village character can become stronger as both residential and commercial infill occur. The 300 foot x 2,000 foot "plaza" on either side of Mentone Boulevard that was the railroad station site could become the centerpiece. Potential uses for the plaza include park, shopping enclave, and mass transit station/commercial use.

Crafton

The General Plan Diagram calls for keeping the citrus groves with a Rural Living designation and adding residential development at Very Low Density on slopes under 15 percent that are not suited for agriculture.

South Redlands

This is the city of palm-lined avenues, stone curbs, Victorian mansions, craftsman bungalows, the Redlands Bowl, the Smiley Library, and a pedestrian oriented Downtown. The Downtown area is the site of the original commercial center of the City and through redevelopment efforts has become a visual and economic asset to the City while retaining its rich historic resources.

South Redlands' main challenge is preservation of its residential neighborhoods. All of the designated Historic Districts are in this sector which includes two-thirds of the City's historic architectural resources.

Where the Medium Density Residential designation remains, regulations to preserve the existing scale and character are to be enacted. (See Section 4.0 Land Use Element). Remaining citrus frontages are to be preserved. (See Section 4.0 Land Use and 7.0 Open Space and Conservation Element)

Planted medians or other landscape elements that would reduce the expanse of pavement could be considered for Olive Avenue and other wide streets that do not need more than two lanes of traffic moving at 25 miles per hour.

San Timoteo/Live Oak Canyons

This sector has always been Redlands' "back country," and is not considered as a candidate for development at urban densities. The Southeast Area Plan maintains the character of the area by retaining "signature ridges" and prohibiting grading of adjoining canyon walls exceeding 50 percent slope (See Section 4.42, Land Use Element). The General Plan policy limiting development to slopes under 30 percent (see Section 8.0 Health and Safety Element) provides stronger protection against changes in the topographic character.

The General Plan Diagram changes San Timoteo Canyon Road to create a new alignment with California Street. The U. S. Army Corps of Engineers flood control project for San Timoteo Canyon Creek identifies a series of sedimentation basins at the mouth of San Timoteo Canyon and approximately 5.1 miles of a large concrete trapezoidal channel. The City of Redlands and other local groups are hoping to work with the Army Corps of Engineers for a more environmentally sensitive flood control project. Such a project could incorporate a natural bottom channel, and basins which are designed as linear parks and wildlife corridors. Because San Timoteo Canyon Road is a region-serving highway that will carry up to 33,000 daily vehicles, it should have a minimum right-of-way for a four lane road. Careful attention should be paid to the traffic circulation analysis and its recommendations for San Timoteo Canyon Road.

A citrus greenbelt could separate Redlands and Loma Linda if there is sufficient interest. This would define the boundaries between the two cities.

West Redlands

During the 1980s, large, generally well-designed apartment projects and industrial development have narrowed the band of citrus that separates Redlands and Loma Linda. Virtually all of the undeveloped area west of Texas Street is in the *East Valley Corridor Specific Plan*. While the Plan identifies the area north of the Morey Arroyo for non residential development, the City of Redlands may consider residential use appropriate in a mixed use development in this area.

The General Plan designates for preservation the narrow strip of citrus between the railroad and I-10

freeway to the east side of California Street as the single most visible celebration of citrus heritage and as a separator between Loma Linda and Redlands.

Northwest Redlands

Most of this sector is within the *East Valley Corridor Specific Plan* and will be developed in accord with its design guidelines. Existing landmark Washingtonia Fan Palm rows will be saved.

Guiding Policies: City Design

3.10a Preserve awareness of Redlands' heritage as the navel orange capital by employing a variety of techniques to preserve agriculture.

3.10b Retain the character of the neighborhoods, streets, and buildings that established Redlands' reputation as an ideal Southern California city.

See Section 3.20, Historic and Scenic Preservation.

3.10c Discourage large master planned projects which create housing of one type, similar design, or narrow price range.

Giant "master planned" projects are out of character with Redlands.

3.10d Create new focal points that maintain the City's rich mix of urban delights.

As the City grows, the dominance of existing focal points inevitably diminishes. Examples of new ones envisioned by the General Plan include: Santa Ana blufftop scenic drive and overlooks; regional shopping center and well designed offices in the East Valley Corridor; Citywide parks to be located in the San Timoteo Canyon area and Northeast Redlands, and citrus throughout the City.

3.10e Preserve the natural appearance of steep hillsides and ridges.

Conservation, safety, and fiscal reasons justify preservation, but visual satisfaction is more widely appreciated.

3.10f Establish or reinforce City entrances that announce arrival and convey the spirit of the City.

At some locations the marker may be an orange grove or a bridge; at others a stone pylon or the start of a palm row.

3.10g Use street trees to differentiate arterials and to reduce the apparent width of wide streets.

3.10h Maintain the village-like character of Downtown Redlands.

3.10i Give particular attention to strengthening the image of North Redlands.

3.10j Maintain the rural feel of San Timoteo and Live Oak canyons.

3.10k Maintain adequate setbacks along major and minor residential arterial streets.

Implementing Policies: City Design

3.10l Use Caltrans and local resources to implement the I-10 Corridor Landscape Master Plan.

A future 10-lane freeway will overwhelm Redlands unless it is part of a major landscape element.

3.10m Prepare a citywide streetscape plan for arterials.

Tree species, median, or parkway landscape treatment and curbs and sidewalk location and materials should be specified.

3.10n Avoid soundwalls as a standard on arterial streets in residential areas.

Walled cities with deserted sidewalks and bleak streets have become the norm in many recently built cities. Redlands has avoided this blight by using side-on cul-de-sacs, but design to mitigate noise resulting from projected traffic increases will require other techniques. Preservation of citrus frontage, use of berms, and frontage roads are alternatives.

3.10o Limit the visible bulk of single-family homes.

As land values rise in highly desirable California communities, efforts to maintain rule of thumb house-to-land value ratios have resulted in construction of houses that are out of scale with their neighborhoods. Redlands has experienced little of this problem so far, but trends suggest that regulation will be needed.

3.10p In North Redlands require residential subdivisions be consistent with a circulation concept plan for subdivision of all land within bounding arterial streets.

Agricultural subdivision of North Redlands created parcels 333 feet wide. If subdivision of each parcel is planned by independent owners without a larger perspective, there is little opportunity to avoid a monotonous, grid street pattern. On the plus side, fragmented ownerships have prevented massive projects with little variation in house design or price.

3.10q Plant large-scale street trees on arterial streets.

Few streets developed since 1950 have adequate street trees for a City with hot summers, yet trees are the simplest and most cost-effective way to improve the feel of almost any street. Tall trees reduce apparent width, provide shade and reduce air pollution.

3.10r Consider creating tree-lined medians where the width of the street is adequate to accommodate the anticipated traffic flows along with a landscaped median.

3.10s Locate parks on highly visible sites where feasible.

Parks such as Texonia Park and Community Park make maximum contribution to the appearance of their neighborhoods.

3.10t Create overlooks for motorists, cyclists, and pedestrians to stop and admire the City. Retain existing easement and rights of way that further these purposes.

Formal and informal viewports exist. More can be provided either within existing public right of way or when adjoining property is subdivided.

3.10u Complete the blufftop scenic drive bordering the Santa Ana Wash between Alabama Street and Judson Street.

3.20 Historic and Scenic Preservation

The purpose of the Historic and Scenic Preservation component of the City Design and Preservation Element is to foster awareness of Redlands' many historic and cultural resources and to establish policies that will protect them.

History and Architecture of Redlands

Redlands' Beginnings. Redlands' early history is similar to that of much of Southern California. It was inhabited by Cahuilla and Serrano Indians, related to the Shoshone of the Great Basin area. During the Spanish period the Indian villages, the San Bernardino Rancho (named after the Italian saint), and the Asistencia were established by the San Gabriel Mission. The missionaries developed the first stable water supply for the area by having the Indians dig a "zanja" to divert the waters from Mill Creek into the Valley. During the 19th century this water allowed ranching districts to develop in Crafton and in the Asistencia area. Today the Mill Creek Zanja, which is listed in the National Register of Historic Places, is used for local drainage, spreading, and flood control.

In 1842, the Lugo family received a land grant from the Mexican government to occupy the San Bernardino and Yucaipa valleys. After the signing of the treaty of Guadalupe-Hidalgo in 1848, California became a territory of the United States, and it was admitted to the Union in 1850. The following year, five hundred Mormons moved into the area, purchasing the San Bernardino Rancho from the Lugos. Their settlement at San Bernardino lasted until 1857, when they were recalled to Utah and their land was divided and sold.

In 1866, Dr. Ben Barton finished his brick house near the Asistencia on what was then known as Barton Ranch. The first settlement in Lugonia occurred in 1869, and the first store in the area opened in Lugonia in 1881.

The year 1881 marks the beginning of Redlands as a town. E.G. Judson and Frank E. Brown built a canal from Santa Ana Canyon to Reservoir Canyon located along the path of Interstate 10 from below Panorama Point to Ford Park to bring water to the area for growing citrus. They laid out a townsite parallel to the slope and, because the dry adobe soil was red, they named it Redlands. Three years later, Frank Brown built the Bear Valley Dam and reservoir, thereby assuring a water supply for residents of the new town. By 1885, two transcontinental railroads ran through the San Bernardino Valley, although neither stopped in Redlands. The first spur to Redlands was built in 1887.

California experienced the biggest land boom in its history during the late 1880s. The rate war between the Santa Fe and the Southern Pacific railroads, which caused the boom, had a profound influence on the growth of Redlands, Crafton, and Lugonia as well as various realty tracts known by such names as Terracina and Mound City.

The Redlands area prospered and grew during this period. The collapse of the boom in 1888 left Redlands well-established and in that year Redlands, Lugonia, the Brookside area, and a portion of Crafton voted to incorporate as Redlands. The incorporation joined the two distinctive street patterns that characterize Redlands today: the north-south Lugonia grid merges with the slope-oriented Redlands grid at the south edge of the Valley.

Early Buildings. Although most of the structures built during Redlands' earliest period are gone, some remnants remain. Two of these are the Zanja and the Asistencia (reconstructed in the 1920s and 1930s). Other adobe structures from the Mexican period survive in San Timoteo Canyon. Redlands had its own brickyard starting in the late 1880s. Most downtown business buildings and many early industrial buildings were built of brick. The downtown, which grew along Orange and State Streets, still has many brick buildings hidden behind facades remodelled in the 1950s and 1960s.

During the 1880s boom, houses sprang up quickly. Many were Victorian cottages which had Queen Anne and Colonial Revival details. These smaller Victorians were often decorated almost as elaborately as their larger sisters, but some were plain hip-roofed boxes. Many of these cottages still stand in central Redlands and in Lugonia.

Cultural Development. Redlands established an early tradition of civic and cultural improvement with the founding in the 1880s of the United Workers for Public Improvement, an organization devoted to civic beautification. In 1887 the Horticultural and Improvement Society was organized, Redlands' orchestra made its first public appearance, the San Bernardino and Redlands motor train commenced service, and the first Citrus Association was formed.

In 1889, two New Yorkers, Alfred H. and Albert K. Smiley, arrived in Redlands. These twin brothers, who were in their sixties, were well-known philanthropists and educators. They spent their winters in Redlands and attracted a circle of friends who played important roles in the City's business, cultural, and scenic development. Smiley Heights, Smiley Park, and the A.K. Smiley Public Library are visible signs of the twins' philanthropy, and much of the present-day aesthetic tradition can be attributed to the Smileys' influence.

Resort Era. Soon after the development of the 200-acre Canyon Crest Park on Smiley Heights, Redlands became a center for wealthy Eastern visitors searching for a warm winter climate for comfort or health. They built mansions surrounded by expansive grounds on the heights above the town. Several hotels were built to cater to the winter visitors and the town became a tourist center. At the same time, Redlands was becoming a packing and shipping center for citrus growers in the surrounding area. Modest neighborhoods were developing along Olive, Cajon, and Brookside, and in Lugonia. Tourists and growers contributed to Redlands' prosperity which is expressed in the architectural legacy from that period.

Significant civic improvements were also made during this period. By 1910, most streets were paved, sidewalks and stone curbs laid, and water, sewer and electricity systems fully established. The population in 1890 was 1,904; by 1900, it was 4,797; and by 1910 it had reached 10,000.

It was also during the turn of the century that private railroad cars brought the wealthy Easterners who built the elaborate mansions on large parcels of property. These mansions reflect a period when great wealth was exhibited through the building of a great house or estate. Most of these estates fall under the architectural styles described in this element, but there are a few exceptions. Kimberly Crest is an example of the Chateauesque style, based on the monumental 16th century chateaux of France. Winter visitors were less likely to build in the popular Queen Anne style favored by those who made their money locally. The more sophisticated and cosmopolitan Easterners emulated instead the grand houses of Europe.

Most of these grand houses are set in landscaped grounds with imposing entrances. A few of these estates, such as Smiley Heights and Prospect Park, were open to the public and became tourist attractions. Many of these estates are gone, but those that remain are precious landmarks from a bygone era.

Residential Architecture (1887-1913). The period 1887-1913 produced more variety in Redlands' residential architecture than any period in the City's history. Many existing buildings exhibit the popular architectural styles of this period: Queen Anne, Shingle Style, Beaux Arts Classicism, Colonial Revival, Mission Revival, and Craftsman.

Redlands is known for its Victorian gems featured in books, calendars, and on tours. Row upon row of Victorians line such streets as Olive Avenue, Highland Avenue, and Cajon Street. The Victorians vary from the Gothic brick cottages to elaborate Queen Anne mansions. The original Lugonia area and the Redlands neighborhoods near downtown are full of small Victorian cottages worthy of preservation. Many of these cottages are Colonial Revival (sometimes called Neoclassic) and feature classical porch columns, hip roof, overlap siding, recessed porches, and fixed pane and double-hung windows. These cottages continued to be built in the early years of this century.

A larger version of the typical neoclassic Victorian Cottage is the American Four square or Classic Box, a two-story house with Colonial Revival features. The Classic Box and Mission Revival styles are well-represented in Redlands. The Holt House and the Burrage Mansion are fine examples of Mission Revival, a style that may be better represented in Redlands than any other city in Southern California.

Craftsman Style. During the first part of this century, progressive ideas were expressed in the studied plainness of the Craftsman bungalow. In reaction against the Industrial Revolution, the rigidities of classicism, and the mass-produced ornament of the Victorian styles, the Craftsman ethic proclaimed a return to nature, emphasizing the use of natural materials, honest craftsmanship, and healthful living. Handcrafted items were admired, both for their usefulness and as an expression of human creativity.

The Craftsman house was an intimate home, with the hearth as its focal point, cozy built-in benches and nooks, and softly burnished wood paneling. The horizontal lines of the Craftsman bungalow fit into the landscape; its stone foundation and heavy wood beams came from the land itself, while vine-covered pergolas and eaves made the house a part of nature. Broad porches encouraged living in the out-of-doors.

These simple bungalows were touted as "democratic" houses for the common man. With their built-in furniture, prominently exposed structural elements, informal floor plans and designs integrated into the natural environment, these bungalows are often seen as the forerunner of modern architecture.

Craftsman architecture grew out of the Arts and Crafts Movement that began in England in the late nineteenth century under the leadership of William Morris and John Ruskin. The movement especially idealized the Medieval period. It addressed social, industrial, and political issues, and fostered craftsmanship in the fine arts, literature, bookbinding, printing, furniture, and textile design as well as architecture. Its principal American exponent was Gustav Stickley, who published *The Craftsman*, a magazine featuring articles and illustrations promoting Craftsman philosophy and taste. Stickley also founded a company that manufactured the simple heavy oak furniture, sometimes called "Mission" furniture, which was intended to furnish Craftsman houses.

Commercial, Public, and Institutional Buildings. Late 19th century brick commercial vernacular buildings dominated the downtown. The most substantial building of the period was the A. K. Smiley Library, which combines the curvilinear gable and tower of the Mission Revival with the heavy stone arches associated with Richardsonian Romanesque, melding the California tradition with New England and medieval Europe. The First Methodist Church was a Mission Revival building, while the Congregationalists chose a modified Richardsonian Romanesque, and the Episcopalians a Gothic Revival style. Most unusual was the Unity Church, a brick building reminiscent of English Arts and Crafts traditions.

Another revival during this period was Beaux Arts Classicism, which embraces the styles used in the United States from 1890-1930 and in Redlands from about 1908-1920. This style projected the dignified image required for public buildings, railroad stations, and banks. Popularized by the "Great White City" built for the 1893 Columbian Exposition in Chicago, the style features symmetrical, balanced facades; classical columns; porticos; and monumental flights of stairs. Obvious examples in Redlands are the Santa Fe Railroad Station as well as the Administration Building, President's House, and several other buildings at the University of Redlands.

The Freeze and its Aftermath (1913-1920). The 1913 freeze, which struck on January 5, 6, and 7, was a catastrophe for Redlands' growers. Icicles hung on the trees in most groves; many of the trees were completely

defoliated. The losses of the citrus growers soon became an economic and social disaster for the entire town. In the years following the freeze, Redlands lost 2,000 people, and it was not until after World War I that building and neighborhood development started once again.

The Thaw -- The Boom of the Twenties. The decade of 1920-1930 was another boom time throughout the United States, in California and also in Redlands, which gained about 5,000 in population during the decade. The new residents contributed to the growth and economic prosperity of the commercial area, where many downtown buildings went up during this decade. The citrus industry prospered once again, and the town's other "industry" -- the University of Redlands -- also expanded. A growing population also led to construction of major buildings for the high school. The number and quality of buildings from this period contrast sharply with the decline of the previous years.

During the first 40 years of this century domestic buildings employed a number of historical revival styles. Though the same revival style might appear in 1910 and again in 1920 or 1930, each decade left a different imprint on the style. The 1900 1920 period revival details reflected Victorian exuberance or Craftsman restraint, while the wealth and sophistication of the 1920's allowed accurate, well crafted details. During the Depression era 1930's economics and contemporary taste demanded more simplified details.

At no time were there so many revivals as during the 1920s: Mediterranean (which combined Spanish and Italian elements), Spanish Colonial Revival, Colonial Revival, Tudor Revival, and Norman Revival. The 1920s were boom times throughout Southern California, only this time oil (and perhaps citrus) took the place of land and railroads. Theaters, shopping centers, and middle class homes were designed to conjure romantic times and far away places. The longing for a foreign atmosphere was so great that entire tracts were developed in styles based on European models.

The most prevalent style of the period was California Mediterranean, called "Californian" at the time. The romance of California's past inspired architects and builders, who borrowed freely from the buildings of Colonial Mexico, Spain, Italy and other Mediterranean lands, as well as from the early adobes of the American Southwest and of Monterey. Low-pitched, red-tiled roofs, arches, plastered exterior and interior walls, carved or cast ornamentation, arcades, balconies with railings of wrought iron or wood, and window grilles are some of the characteristic features of houses built during this era. The purer forms of California Mediterranean are categorized in subgroups such as Spanish Colonial Revival, Monterey Revival, and Pueblo Revival; many of the most outstanding examples, however, are a unique blend of motifs that could only have originated in California and were created to express a California way of life.

Redlands also has examples of other styles prevalent in California during the 1920's: the Tudor Revival Cottage, Colonial Revival, Twenties Craftsman, and other period revivals. These styles replaced the Craftsman bungalow in the many tracts of smaller houses built during this period. In 1924 Garrett Huizing, a local builder, developed the Buena Vista tract, which included a rare example of Egyptian Revival architecture.

The neighborhood around the University of Redlands had been subdivided with entrances defined by clinkerbrick posts in 1917, but was not developed until 1924. Prevalent in that area are Twenties Craftsman bungalows; they differ from their rustic forbears in their smaller (and less expensive) wood members, smaller porches, and often symmetrical facades.

A significant Period Revival development is Normandie Court,a collection of eighteen Norman Revival cottages organized around a central driveway. Based on the rural architecture of Normandy, the picturesque cottages feature high hipped roofs, conical towers, wavy shingling patterns on the roofs, and stucco wall finishes of varying texture.

Builders of the 1920s were able to advertise Redlands as a fine residential city because of the expansive public streets, street trees, and cut-stone curbs, all of which had been planned and planted by the far-sighted settlers of the 1890s and early 1900s.

Redlands' Historic Neighborhoods. The historic neighborhoods of Redlands provide the context and setting for the many historic resources of the town. The setting of Victorian and early 20th century historic buildings has, in many instances, been compromised by lot splits, zoning changes, variances, or conversion to other housing. Saving the building also requires retaining the historic context of the structure. Modern buildings crowded next door to a stately two-story 1890 house give a completely different impression than the house in its original neighborhood with original plantings.

Redlands' early neighborhoods developed as the unique result of changing technology, ways of life and philosophies, new architectural fashions, and innovations in urban planning. The forces and times that produced these neighborhoods are now gone.

Many people in Redlands live in neighborhoods built between 1890 and 1930. These neighborhoods are important because they continue to provide housing, schools, public amenities, and commercial facilities that make neighborhoods good places to live.

The late 19th and early 20th century houses and development patterns are key elements of these neighborhoods. Because these neighborhoods seem so ordinary, many people overlook their unique qualities or consider them undeserving of special attention. Consequently, new construction and development, building alterations, land-use plans and zoning have frequently ignored the heritage of these neighborhoods. Modern factory produced building materials and lack of information about earlier building techniques have often resulted in inappropriate alterations. Some homeowners, for example, add Victorian ornamentation or pseudo Colonial doorways to make their house appear more historic. As a consequence, intact historic neighborhoods are becoming increasingly rare in Southern California.

Insensitive alterations and changes can destroy the special characteristics of these early neighborhoods. To avoid this, residents interested in neighborhood revitalization and stabilization need to become familiar with the area's architecture and history. By using this knowledge to build pride in the neighborhood and to foster a neighborhood conservation ethic among fellow residents and City officials, residents can help their neighborhoods remain good places to live while retaining links to the past.

For those who take the time to look, these neighborhoods provide a wide variety of visual links to the past by illustrating the transition from the Victorian era to the modern world, reviving images of our European and colonial heritage and providing guidelines for future urban development. These older neighborhoods are indeed the basis of Redlands' architectural heritage, deserving of widespread recognition.

Historic Preservation in Redlands

The City of Redlands and its citizens have long been concerned with the preservation of Redlands' architectural, historic, cultural, archeological and scenic resources, referred to here as "historic resources." In the early seventies, Redlands began taking an inventory of its historic structures. In 1976, Redlands received a State grant to survey historic properties, documenting 568 historic properties. A Historic and Scenic Preservation Commission was established in 1976 to advise the City Council regarding designation and protection of historic resources. In 1985, the first Historic and Scenic Preservation Element of the General Plan was prepared and adopted. An ordinance adopted in 1986 strengthened the protection of resources by allowing the Commission to deny demolition, except in cases of proven hardship, and to designate without owner consent.

A more thorough inventory of historic resources began in 1985. There are approximately 2,000 buildings over 50 years old that remain to be inventoried. The vast majority of these are residential and institutional.

The City Council, after recommendation by the Commission, has placed over 60 structures and 8 districts on its Register of Historic and Scenic Properties, and has designated a number of streets as Scenic Drives. The Zoning Ordinance has been amended to encourage "adaptive reuse" of older residential buildings in certain commercial areas and to allow bed and breakfast inns in historic buildings.

The A. K. Smiley Library Heritage Room has been designated as the official archives of the City. Its collections provide an invaluable resource for documentation of the history of Redlands and its historic resources.

Classification of Historic Resources. Historic resources in Redlands are divided into five categories: landmarks, historic properties, historic and scenic districts, historic and scenic thematic collections, and urban conservation districts.

- A landmark is defined as a building, site, or area with exceptional character or exceptional historic or aesthetic interest or value as part of the development, heritage, or cultural characteristics of the City, State, or nation.

- A historic property is a structure or site that has significant historic, architectural, or cultural value.

- A historic and scenic district is a significant neighborhood, agricultural or passive recreational open space, enclave or collection of historical buildings that may have been part of one settlement, architectural period, or era of development.

- An historic or scenic thematic collection is a collection of significant sites or buildings which are not necessarily located together in the same geographical area, but are linked by a historical or architectural theme.

- An urban conservation district is a residential or commercial neighborhood which meets the designation criteria, but contains a significant proportion of non-historic properties, and which the City wishes to maintain and revitalize.

Historic and Scenic Preservation Ordinance. The Redlands Historic and Scenic Preservation Ordinance provides a way for the City to recognize and protect its historic resources. The Ordinance establishes a process for designating historic resources and reviewing alterations to the exterior of these resources. Because there is a large number of resources and designating them is a time-consuming process, the Ordinance provides for the Historic and Scenic Preservation Commission to place all potential resources on a list of "nominated resources." An application to alter the exterior of a nominated resource activates the designation procedure, thus ensuring protection of historic resources that the City has not yet been able to designate.

The Commission is responsible for seeing to it that the properties on the list are surveyed, using generally accepted survey methods to identify and describe each historic resource. The Commission then prepares a report using this information to determine whether a resource is significant and, therefore, should be officially recognized as a designated resource.

The criteria, any one of which may be used to determine such designation, are as follows:

1. It has significant character, interest, or value as part of the development, heritage, or cultural characteristics of the City of Redlands, State of California, or the United States;

2. It is the site of a significant historic event;

3. It is strongly identified with a person or persons who significantly contributed to the culture, history, or development of the City;

4. It is one of the few remaining examples in the City possessing distinguishing characteristics of an architectural type or specimen;

5. It is a notable work of an architect or master builder whose individual work has significantly influenced the development of the City;

6. It embodies elements of architectural design, detail, materials, or craftsmanship that represent a significant architectural innovation;

7. It has a unique location or singular physical characteristics representing an established and familiar visual feature of a neighborhood, community, or the City;

8. It has a unique design or detailing;

9. It is a particularly good example of a period or style;

10. It contributes to the historical or scenic heritage or historical or scenic properties of the City (to include, but not limited to landscaping, light standards, trees, curbings, and signs);

11. It is located within a historic and scenic or urban conservation district, being a geographically definable area possessing a concentration of historic or scenic properties which contribute to each other and are unified aesthetically by plan or physical development.

Before a property or district is designated as a significant historic resource, the Commission must hold a public hearing and make a recommendation to the City Council. The Council then holds its own public hearing and makes the final decision on designating the property. All designated properties are put on the City's Register of Historic and Scenic Resources.

Redlands' Municipal Code gives the City authority to designate without consent of the owner. This authority has been established by the U.S. Supreme Court decision in the Penn-Central case (1978) and by analogy with land-use law. The challenge here is to balance preservation goals and the needs of the community as a whole with the need to bring property owners into the preservation process in a positive fashion. Just as a property owner cannot veto zoning restrictions, so historic resource designations are not subject to an owner's veto. If the owner can show that preservation of the building is a hardship (not including loss of profit), both the Penn Central precedent and Redlands' code allow the possibility of demolition. The City of Redlands also provides certain benefits to owners of historic properties, including fee reductions for City permits. The effect of designation is to create an overlay, imposing design review and other regulations on designated property. The underlying zoning regulations still apply.

Once a property is designated, all significant exterior alterations are reviewed either by a staff preservation expert or by the Historic and Scenic Preservation Commission, using the procedures outlined in the Ordinance. Design guidelines are used to help determine if an alteration is appropriate. The kinds of changes that are reviewed include alterations to a building exterior, new construction or major landscape changes on the site of a historic

resource, subdivision of a historic setting or site, and demolition or removal of a historic resource. When a change to the exterior of a historic structure or to a site is approved, the applicant is granted a Certificate of Appropriateness. In the case of severe hardship, the Ordinance provides the applicant the opportunity to apply for a Certificate of Hardship.

As of June, 1995 the City Council had approved eight districts.

1. **Eureka Street Historic District:** Five Victorian cottages (1885-1900).

2. **West Highland Avenue Historic and Scenic District:** A broad avenue of prestigious houses, many of them pre 1900 (1887-1914).

3. **Early Redlands Historic and Scenic District**: Substantial Victorian and turn of the century houses and churches close to downtown.

4. **Normandie Court Historic District:** Eighteen "Hansel and Gretel" cottages built in 1926.

5. **East Fern Avenue Historic and Scenic District**: A spectrum of Redlands' major architectural styles between 1900 and 1956.

6. **Garden Hill Historic and Scenic District**: A unique curving hillside street featuring an adobe house, California Mediterranean houses and other styles, enhanced by beautiful views.

7. **La Verne Street Historic District:** Primarily Victorian and turn of the century cottages.

8. **Smiley Park Neighborhood:** This large district focuses on Smiley Park and surrounding cultural amenities including the Redlands Bowl, the A.K. Smiley Public Library, the Lincoln Memorial Shrine and the City Hall as well as the surrounding residential areas.

Guiding Policies: Historic and Scenic Preservation

3.20a Identify, maintain, protect, and enhance Redlands' cultural, historic, social, economic, architectural, agricultural, archaeological, and scenic heritage. In so doing, Redlands will preserve its unique character and beauty, foster community pride, conserve the character and architecture of its neighborhoods and commercial and rural areas, enable citizens and visitors to enjoy and learn about local history, and provide a framework for making appropriate physical changes.

3.20b Provide incentives wherever possible to protect, preserve, and maintain the City's heritage.

3.20c Foster an understanding and appreciation of history and architecture.

3.20d Encourage retention of the character of existing historic structures and urban design elements that define the built environment of the City's older neighborhoods.

3.20e Encourage retention of historic structures in their original use or reconversion to their original use where feasible. Encourage sensitive, adaptive re-use where original use is no longer feasible.

3.20f Encourage preservation of and public access to significant scenic vistas, viewpoints and view corridors.

3.20g Coordinate preservation of historic resources with policies designed to preserve affordable housing.

3.20h Encourage consideration of urban design quality as well as safety when street or other public improvements are proposed.

3.21 Historic and Scenic Conservation Areas

Implementing Policies: Historic and Scenic Conservation Areas

3.21a Designate Historic and Scenic Districts and Urban Conservation Districts whenever areas are qualified and supported by a significant majority of the property owners.

3.21b Establish priorities for protection of potential districts based on both significance and endangerment. Seek to establish support of property owners in high priority areas.

3.21c Establish zoning regulations that implement Historic and Scenic Preservation policies.

3.21d Provide incentives to encourage preservation of large historic structures and conversion to multi family housing if preservation of original use is an economic hardship.

3.21e Establish guidelines and incentives for appropriate adaptive re use of historic structures.

3.21f Encourage the location of needed parking in interiors of blocks to minimize visual impact on streetscape and neighborhoods.

3.21g Limit parking area coverage and size of parking structures in order to maintain special qualities of streetscape.

3.21h Establish design guidelines for parking lots and structures that reduce visual impacts on neighborhood and streetscape.

3.21i Establish lot sizes for infill development that relate to existing lot sizes nearby.

3.21j Establish standards and incentives for preservation of scenic vistas.

3.21k Provide incentives and standards to encourage preservation of citrus groves.

3.21l Recognize and mitigate the ill effects of the following on historic areas:

- Inappropriate commercial development;
- Inappropriate scale, materials, setbacks and landscaping;
- Interruption of the established street pattern;
- Inadequate off street parking, where development of off street parking does not cause loss of historic buildings;
- Excessive automobile traffic.

3.21m Encourage neighborhood groups to be actively involved in preservation.

3.21n Promote neighborhood organization and identity and foster neighborhood conservation programs, giving special attention to transitional areas next to commercial areas.

3.21o Pursue policies of street management to control traffic in such areas, because historic areas are especially vulnerable when threatened by too much traffic.

3.21p Where feasible, retain existing easements and rights of way for use as view points, turn outs, and scenic walkways.

3.22 City Property

Implementing Policies: City Property

3.22a Maintain and improve City-owned historic buildings and houses in an architecturally and environmentally sensitive manner.

3.22b Maintain and improve Redlands' streets, trees, streetlights, parkways, parks, stone curbs, and citrus groves in a manner that enhances the City's beauty and historic fabric.

3.22c Use exemplary design quality in new City construction, public works, and City signs.

3.23 Privately-Owned Historic Resources

Implementing Policies: Privately-Owned Historic Resources

3.23a Ensure that permanent changes to the exterior or setting of a designated historic resource are in keeping with the intent of the General Plan by requiring a Certificate of Appropriateness for such changes.

3.23b Seek creative solutions to the problem of preservation and maintenance of large houses.

3.23c Encourage appropriate adaptive reuse of historic resources in order to prevent disuse, disrepair, and demolition, taking care to protect surrounding neighborhoods from disruptive intrusions.

3.23d Consider noise, traffic, and residential privacy when approving non-residential uses in mixed-use zones where residential units are interspersed with non-residential buildings.

3.23e Endeavor, should demolition of a designated historic resource occur, to ensure that a building of equal or greater design quality and/or use of equal or greater benefit to the community be constructed. Require that archival-quality drawings and/or photographic records be prepared to document the historic resource.

3.23f Institute an architectural salvage program to preserve architectural artifacts from buildings that must be demolished.

3.23g Encourage the use of tax credits, donated easements, and other fiscal incentives for preservation.

3.23h Encourage energy conservation alterations that are compatible with preservation.

3.23i Encourage the highest maintenance of historic resources by pursuing funding programs to assist people in doing needed repairs, by requiring code compliance, and by providing information to homeowners as to how to maintain their property and where to go for assistance and advice.

3.24 New Development

Implementing Policies: New Development

3.24a Encourage developers to construct new buildings and settings of such quality that preservationists of the future will wish to protect them. Encourage appropriate scale, materials, setbacks, and landscaping to enhance the City's beauty and historic fabric.

3.24b Establish design review guidelines for historic areas to ensure that new architecture will relate to and respect the environmental context.

3.24c Encourage compatibility of new land uses and new construction adjacent to buildings listed on the Inventory of Historical Structures. Construction should be physically and aesthetically complementary to the historic buildings.

3.24d Encourage historical depictions commemorating historic sites or events in Redlands' history. Such depictions could be incorporated into new commercial or rehab development projects. Historical depictions may be monuments, plaques, archaeological viewing sites, exhibits, or illustrative art works, such as sculpture, mosaics, murals, tile-work, etc.

3.25 Citizen Participation and Cooperation with Preservation Groups

Implementing Policies: Citizen Participation and Cooperation with Preservation Groups

3.25a Encourage citizens to participate in public hearings on designation, Certificates of Appropriateness and Certificates of Hardship.

3.25b Encourage citizens to become involved in historic preservation by training them in survey techniques and involving them in the ongoing surveys of historic resources.

3.25c Cooperate with private organizations doing preservation work and serve as liaison for such groups.

3.26 Government Decision-Making

Implementing Policies: Government Decision-Making

3.26a Protect residential, agricultural, and natural areas that may be eligible for designation by rezoning such areas and/or amending the zoning code to promote conservation of the existing built environment and agricultural and scenic areas.

3.26b Consider the effect of proposed amendments to the General Plan and Zoning Ordinance on preservation concerns. Consider amending the Zoning Ordinance to allow historic district overlays and historic building site overlays.

3.26c Consider adopting additional provisions which enable the Historic and Scenic Preservation Commission to review permanent changes to the exterior or setting of designated historic resources, require minimum maintenance, encourage designation of agricultural and scenic areas, and establish significant penalties for demolition without a permit.

3.26d Consider developing ordinance language and procedures to allow designation of thematic resources. Examples include thematic designation of works of architect Davis Donald; thematic designation of buildings from "boom period" (1886-1888); and thematic designation of buildings related to citrus industry.

3.26e Consider measures to prevent unnecessary demolition when development projects do not materialize.

3.26f Establish a list of potential historic resources, historic districts, citrus groves, palm rows, and historic scenic areas. Set up a priority system for designation and proceed with designation.

3.26g Make the Certificate of Appropriateness process as streamlined and efficient as possible while not slighting its duty to protect the character of the neighborhood or structure in question.

3.26h Encourage public participation in the process for evaluating and preserving historic and scenic resources.

3.26i Support a strong and effective Historic and Scenic Preservation Commission as a key element in decisions affecting historic and scenic resources.

3.26j Work toward preventing the displacement of elderly and lower income people from their homes in historic areas.

3.26k Seek and promote use of funding sources to establish low interest loans or grants for rehabilitation in low income historic neighborhoods and for maintenance of older citrus groves.

3.26l Maintain a preservation program with adequate City staffing and integrate preservation concerns into government decision making.

3.26m Establish clear and efficient procedures for processing historic property applications.

3.26n Ensure that public funds for rehabilitation are not used to the detriment of private or public historic resources.

The City receives Community Development Block Grant (CDBG) funds and other federal and state funds. Although these have not been used for rehabilitation, they could be, and it is possible that Redlands might obtain funding for rehab in the future.

3.27 Commercial and Redevelopment Areas

Implementing Policies: Commercial and Redevelopment Areas

3.27a Encourage removal of inappropriately altered or tacked-on facades on commercial buildings and restoration of original facades.

3.27b Encourage new construction that ties the new with the old in a harmonious fashion, enhancing the historic pattern.

3.27c Encourage preservation, maintenance, enhancement and reuse of existing buildings in redevelopment areas, retention and renovation of existing residential structures, and relocation of existing residential structures within the City where retention on-site is not feasible.

3.27d Coordinate Redevelopment Agency planning with the regular city planning process.

3.28 Education and Public Relations

Implementing Policies: Education and Public Relations

3.28a Seek to educate the general public about Redlands' heritage and to educate owners of historic properties about how to rehabilitate and maintain their property.

3.28b Where inappropriate alterations have been made, endeavor to explain how such alterations detract from the property, how they may be removed, and the economic and cultural benefits of restoration.

3.28c Encourage involvement of Redlands' schools, adult education classes, and the University of Redlands in preservation programs and activities.

3.28d Continue to work with local newspapers to inform the community of Historic and Scenic Preservation Commission and other preservation activities.

3.28e An advisory body such as the Parks Commission shall continue to educate the public regarding the care of small citrus groves in older residential areas.

3.28f Print informational brochures explaining the preservation process and preservation techniques to the public.

3.28g Issue awards and commendations as appropriate to owners of historic and scenic resources who have done particularly admirable rehabilitation and to others who have made special contributions to the preservation effort.

3.28h Make special efforts to reach the business community and to inform its members about Redlands' heritage and the opportunities it presents.

3.28i Promote Redlands' image, its cultural life, and its outstanding architectural, historic, and scenic resources, in order to attract new business and tourism to the City.

3.28j Work with civic groups who wish to hold meetings to educate their members about preservation.

3.29 Agricultural and Scenic Areas

Implementing Policies: Agricultural and Scenic Areas

3.29a Encourage preservation of citrus groves and other agricultural areas that are designated as having cultural or scenic significance. Encourage retention of existing privately owned citrus groves of all sizes, especially in historic neighborhoods.

3.29b Identify existing agricultural areas, scenic views, vistas, and streetscapes, including mountain, canyon, and valley vistas, urban view corridors, focal points and focal buildings.

3.29c Define and implement measures to preserve citrus groves, scenic views, vistas, and streetscapes for the community.

3.30 Preservation of Older Neighborhoods

Implementing Policies: Preservation of Older Neighborhoods

3.30a Promote neighborhood preservation and stabilization.

3.30b Permit densities, design, and uses that will help preserve the character and amenities of existing older neighborhoods.

3.30c Discourage changes in residential areas that would disturb the character or clearly have a destabilizing effect on the neighborhood.

3.30d In multiple family areas with a predominance of houses built as single family residences, create "tailor-made" zones that will protect the single family appearance of the neighborhood.

3.30e In transitional areas, allow no new uses that would contribute to expansion of commercial uses and subsequent deterioration of neighborhoods.

3.30f Encourage shared parking or in-lieu parking in older neighborhoods.

3.30g Encourage preservation of historic public and private improvements, such as street curbs, street trees, specimen trees, street lights, hitching posts, masonry walls, unpaved and early paved sidewalks, etc.

4.0 LAND USE ELEMENT

REDLANDS GENERAL PLAN

4.0 LAND USE ELEMENT

Land use, narrowly defined, refers to how a particular site is being utilized, whether residential, commercial, industrial, institutional or open space. The Land Use Element is the core of the General Plan. It consists of text, policies, and a land use plan referred to as the General Plan Diagram, that designates proposed general location and extent of each land use category. It is intended that this section serve as the basis for establishing compatible land use relationships and orderly growth.

4.10 Land Use Issues

Much of the General Plan Citizens' Committee meeting time was spent determining discussion of the appropriate amount and intensity of development. Major issues included:

- Population holding capacity
- Amount and location of park and open space land (See Open Space and Conservation Element)
- Medium density share of housing
- Location of additional medium-density housing
- Nonresidential intrusion in historic neighborhoods
- Sensitive development of hillside areas (Live Oak and San Timoteo Canyon)
- Effect of employment concentration in *East Valley Corridor Specific Plan* on traffic.

Population and Job Holding Capacity

The population within the Planning Area at General Plan buildout will accommodate slightly over 101,000 residents and enough nonresidential floor area for 109,000 jobs. Table 4.1 shows the Existing Development and General Plan Holding Capacity. The General Plan buildout represents a 62 percent increase in the planning area's 1994 population of 66,000 residents and a 320 percent increase to the estimated 26,000 existing jobs.

4.30 Land Use Classifications

The General Plan Diagram, GP Figure 4.1, depicts 15 categories of land use: rural living; very low density; low density; low medium density; medium density; high density; office; commercial; commercial/industrial; light industrial; public/institutional; parks/golf courses; agriculture; flood control/construction aggregates/ conservation/habitat preservation; and resource conservation. A Housing Conservation Overlay is also used. All land within the planning area has been mapped to reflect the proposed use of land when the City is built out or fully developed.

The General Plan Diagram reflects a variety of considerations in determining the most likely future development patterns. These considerations are:

1. Existing land use
2. General Plan policies
3. Existing zoning and approved development plans
4. Existing specific plans and general plan amendments
5. Environmental constraints
6. Existing and proposed transportation systems
7. Availability of utilities (i.e., water, sewer, gas and power)

The General Plan Diagram also reflects the proposed street network.

GP TABLE 4.1
EXISTING DEVELOPMENT AND GENERAL PLAN HOLDING CAPACITY

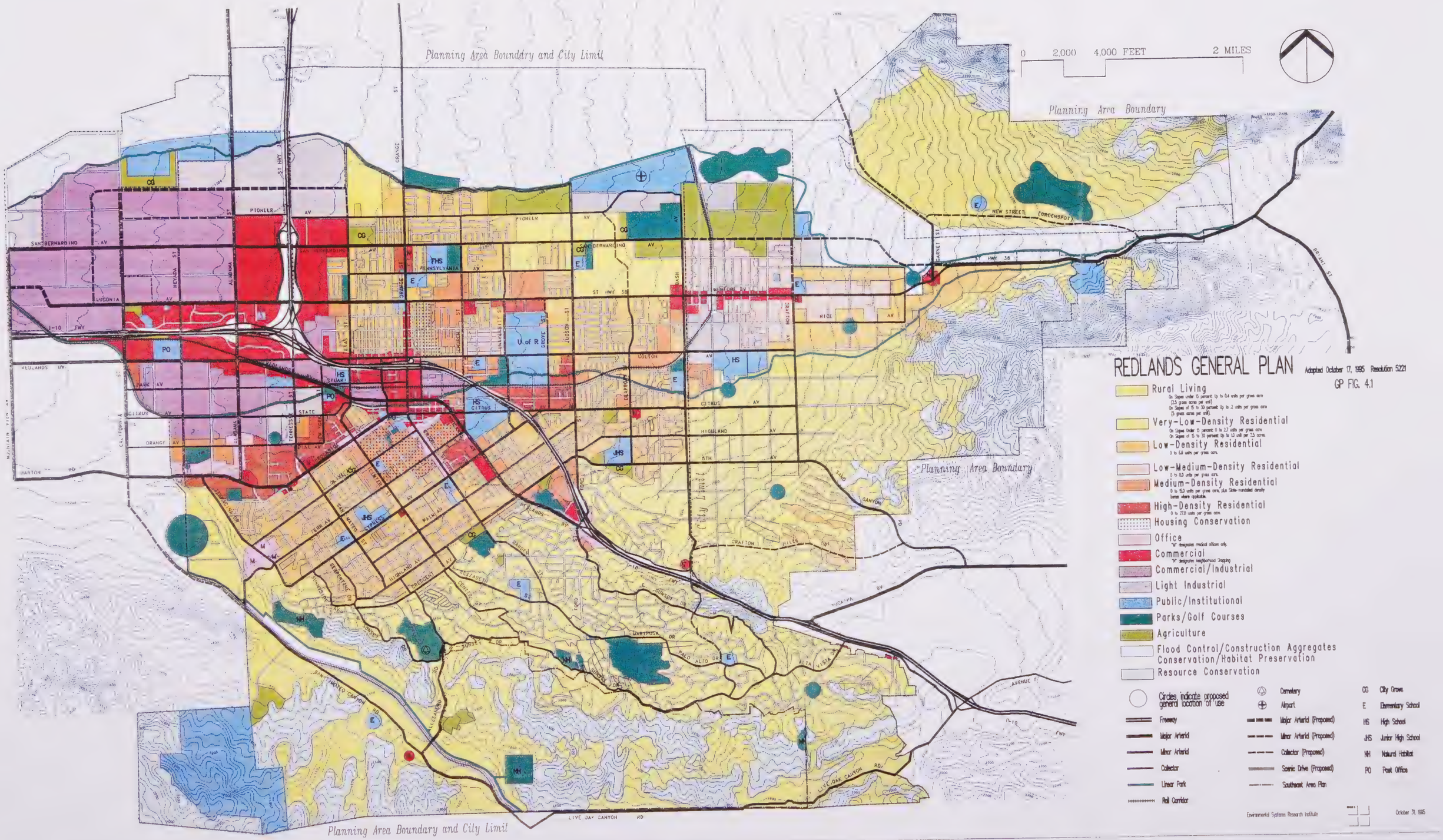
	RESIDENTIAL HOUSING (dwelling units)				NON-RESIDENTIAL FLOOR AREA (thousand square feet)			SCHOOL ENROLLMENT (students)		
	LOW DENSITY	MED/HIGH DENSITY	MOBILE HOMES	TOTAL	COMMERCIAL	OFFICE	INDUSTRIAL	ELEMENTARY	SECONDARY	UNIVERSITY
Existing 1994 Development (by Planning Sector)										
Northwest Redlands	221	72	5	298	194.84	371.19	715.74	168	143	0
North Redlands	6,082	2,570	961	9,613	235.84	164.44	85.03	3,029	1,267	1,508
South Redlands	7,602	2,582	49	10,233	952.41	1,381.68	0.00	3,612	5,556	0
West Redlands	166	2,442	35	2,643	1,540.93	361.99	1,492.51	279	931	0
San Timoteo Live Oak Canyon	1,244	16	21	1,281	0.00	144.18	0.00	0	0	0
Crafton	565	111	272	948	18.73	14.27	42.69	0	0	0
Mentone	1,295	593	2	1,890	156.56	0.00	951.66	605	0	0
TOTAL	17,175	8,386	1,345	26,906	3,099.31	2,437.75	3,287.63	7,693	7,897	1,508
General Plan Buildout (by Planning Sector)										
Northwest Redlands	189	235	5	429	4,752.83	6,931.42	15,259.74	168	143	0
North Redlands	7,372	3,390	961	11,723	335.34	164.44	1,140.23	3,411	1,267	2,000
South Redlands	8,368	3,628	18	12,014	1,082.23	1,758.44	174.18	4,529	5,556	0
West Redlands	75	3,389	3	3,467	2,161.22	1,035.65	3,741.82	279	931	0
San Timoteo Live Oak Canyon	3,050	16	21	3,087	0.00	144.18	0.00	770	0	0
Crafton	2,030	111	272	2,413	18.73	14.27	42.69	770	0	0
Mentone	2,509	593	179	3,281	295.85	0.00	1,283.33	800	2,687	0
TOTAL	23,593	11,362	1,459	36,414	8,646.20	10,048.40	21,641.99	10,727	10,584	2,000

Sources:

1. Residential housing based on 1990 Census, Assessors Data, and ESRI acreage figures.
2. Nonresidential floor area based on ESRI acreage figures, City of Redlands Building Department information, and field reviews.
3. School enrollment figures based on information from Redlands Unified School District, University of Redlands, and private schools.

Buildout Population

Number of Households @ 2% vacancy	35,686
Household Population @ 2.76 persons/household	98,493
Group Quarter Population @ 3.2% of household pop.	3,152
Total Buildout Population	101,644


Planning Area Boundary and City Limit
Planning Area Boundary
0 2,000 4,000 FEET 2 MILES
REDLANDS GENERAL PLAN
Adopted October 17, 1995 Resolution 5221
GP FIG. 4.1
Rural Living
Very-Low-Density Residential
Low-Density Residential
Low-Medium-Density Residential
Medium-Density Residential
High-Density Residential
Housing Conservation
Office
Commercial
Commercial/Industrial
Light Industrial
Public/Institutional
Parks/Golf Courses
Agriculture
Flood Control/Construction Aggregates
Conservation/Habitat Preservation
Resource Conservation
Circles indicate proposed general location of use
Freeway
Major Arterial
Minor Arterial
Collector
Linear Park
Rail Corridor
Cemetery
Airport
Major Arterial (Proposed)
Minor Arterial (Proposed)
Collector (Proposed)
Scenic Drive (Proposed)
Southeast Area Plan
CG City Grove
E Elementary School
HS High School
JHS Junior High School
NH Natural Habitat
PO Post Office
Environmental Systems Research Institute
October 31, 1995
City Limit
U of R
PENNSYLVANIA
STUART
CITRUS
CYPRESS
SAN BERNARDINO
PIONEER
REDLANDS
CITRUS
ORANGE
STATE
FERN
HIGHLAND
COLTON
HIGE
NEW STREET (GREENSPOT)
CRAFTON HILLS
PALO ALTO DR
ALTA VISTA DR
LIVE OAK CANYON RD
SAN TIMOTEO CANYON RD
BARTON RD
MOUNTAIN VIEW AV
CALIFORNIA
ALABAMA
TENNESSEE
ALESSANDRO
I-10 FWY
ST HWY 38
BRYANT ST
GARNET ST
YUCAIPA BV
AVENUE F

The following descriptions apply to land uses indicated on the General Plan Diagram. The legend on the Plan Diagram is an abbreviated version of the descriptions. The land use classifications are adopted as General Plan policy and are intentionally broad enough to avoid duplicating the City's zoning regulations. The General Plan Diagram, which is a graphic representation of City policies regarding growth and development, is to be utilized in conjunction with the policies contained in the General Plan as a guide to decision making. The General Plan Diagram should not be confused with a zoning map which delineates districts of the zoning ordinance wherein specific uses of the land and associated development regulations are prescribed. More than one zoning district may be consistent with a single General Plan land use category, and some revisions to the zoning regulations will be necessary to implement the General Plan.

State law requires the General Plan to establish standards of population density and building intensity for each land use classification. For nonresidential uses a maximum permitted ratio of gross floor area to site area is specified. The Floor Area Ratio (FAR) is a broad measure of building bulk that controls both visual prominence and traffic generated. Residential population density is expressed as housing units per gross acre (See Glossary definition) instead of units per net acre, the measure used by the 1972 General Plan. The net densities are higher than equivalent gross densities because street area is omitted from the calculation.

The density/intensity standards do not require the City to approve development projects at the top of the density or intensity range for each classification. Zoning regulations consistent with General Plan policies and/or site conditions may reduce development potential. Gross density standards and assumed averages for residential categories are listed below. Table 4.2 shows maximum FAR standards for nonresidential uses.

Table 4.2 - FLOOR AREA RATIOS

	COMMERCIAL	OFFICE	INDUSTRIAL
General Plan except as specified below	**.30**	**.40**	**.45**
Downtown Redlands (standards)	**2.00**	**2.00**	**---**
East Valley Corridor Specific Plan Area (standards)	**.25-.60**	**.60-.90**	**.80-1.20**

Maximum residential densities are per gross acre of developable land under 15 percent slope, provided that at least one housing unit may be built on each existing legal parcel designated for residential use. Second units are permitted by local regulation and State-mandated density bonuses are in addition to densities otherwise permitted. Hillside Overlay provisions of the Redlands Municipal Code are applied in calculating population holding capacity of the General Plan.

Assumptions used to calculate probable office, commercial, industrial, housing unit and population holding capacity at buildout are lower than the maximum theoretically possible under the General Plan. Experience has shown that projects, due to physical constraints (street ROW, easements, fault zones, flood control facilities, etc.), do not build to the maximum intensity or density as permitted by the General Plan or zoning code. To develop a master plan based upon the theoretical maximum allowed by a General Plan designation or zoning code classification would overstate the ultimate buildout of the City of Redlands and not portray an accurate picture of anticipated development. Therefore, specific assumptions to replicate actual conditions have been applied to develop a "credible worst case scenario" at buildout. Assumptions are specified in MEA Appendix A, Buildout Land Use Assumptions.

A number of development options are available in the City of Redlands. These options are discretionary and include: Planned Residential Developments (PRD) and Specific Plans. Specific details on appropriate use, requirements and guidelines for these development options are found in the Zoning Regulations of the Redlands Municipal code.

Planned Residential Developments (PRD) - The General Plan recognizes that greater flexibility may be allowed in the design and arrangements of housing by permitting a project containing a mixture of housing types. The principles established for Planned Residential Development (PRD) in addition to the applicable General Plan policies consist of:

- The overall density of housing units within a project shall not exceed the density established by the General plan.
- The design of the project will not adversely affect adjacent residential uses or other sensitive land use areas.
- The arrangement of structures and circulation system will provide usable, efficient, and aesthetically desirable open areas for recreation and outdoor living.
- Planned residential areas shall provide usable open space for the residents on individual sites and in public open space.
- Conservation of existing citrus groves and the encouragement of new groves by allowing PRD's in agricultural areas.

Planned Unit Developments (PUD) - Planned Unit Developments or mixed land uses functionally integrate a variety of residential, commercial, and light industrial uses within a physically compact area. In a time of escalating costs, mixed use development offers benefits in energy use, reduced costs associated with construction and provision of community support facilities, and the conversion of land within the City. By bringing shopping, employment and residential uses physically closer, travel costs and air pollution in terms of fuel consumption and travel can be reduced. Utilizing Planned Unit Development is one method of accommodating projected increase in population and commerce on a finite amount of land, while still maintaining the high quality of living found in the City of Redlands. The Municipal Code does not presently have provisions for PUD's and therefore an amendment to the code would be necessary to implement this tool.

Specific Plan - Specific Plans are a tool to implement the General Plan. Specific Plans are sub-area plans which provide the opportunity to master plan an area by including financial, environmental and development procedures. Specific Plans are regulatory documents adopted by the City which refine general plan policies for specific areas. Specific Plans allow the community to package a set of land use specifications and implementation programs tailored to the unique characteristics of a particular site. Such plans are extremely useful for sites with environmental and/or fiscal constraints.

4.40 Residential Land Use Classifications

Rural Living - The Rural Living category designates up to .4 units per gross acre (1 unit per 2.5 gross acres) in slopes under 15 percent and .2 units per gross acre (1 unit per 5 gross acres) on slopes 15 percent or greater. The intent of this land use category is to retain sufficient open area to preserve natural features of the area and/or encourage agricultural use of the majority of each parcel.

Very Low Density - The Very Low Density category designated from 0 to 2.7 units per gross acre on slopes under 15 percent. On slopes of 15 to 30 percent the maximum density is .4 units per gross acre (one unit per 2.5 acres). On slopes greater than 30 percent the maximum density is .2 units per gross acre (one unit per 5 acres). Smaller infill lots which are consistent with the prevailing development pattern may be approved. The

intent of this land use category is to encourage limited, low-density residential development. General Plan policies encourage the retention of natural hillside areas, and minimize grading and vegetation removal.

Low Density - The Low Density category designates from 0 to 6.0 units per gross acre. This category is not intended to be applied in areas where slopes exceed 15 percent. The intent of this land use category is to provide for areas of single family residential developments. The General Plan provides a wide range of densities to encourage development appropriate to the site. Consistent lot sizes include 7,200 square feet (6.0 units per gross acre) and 10,000 square feet (4.3 units per gross acre).

Low Medium Density - The Low Medium Density category designates from 0 to 8 units per gross acre. The intent of this land use category is to provide for a continuation of the land uses at densities compatible with existing development in the Mentone area and in the vicinity of the University of Redlands.

Medium Density - The Medium Density category designates from 0 to 15.0 units per gross acre. The intent of the Medium Density land use category is to provide areas for the development of attached, detached and/or mixed residential uses with a range of densities and housing types. At the upper end of the range apartments would occupy about 85 percent of the gross area of a site creating a density of 17.6 units per net acre. Single family attached units typically would be in the 6 to 8 units per gross acre range. Some existing mobile home parks are in the Medium Density range.

High Density - The High Density category designates from 0 to 27 units per gross acre. The intent of the High Density land use category is to provide for the development of attached, detached and/or mixed residential uses with a range of densities and housing types.

In all residential land use categories, density bonuses may be applied (as required by State law), when a percentage of the units are reserved for low income households and/or senior citizens.

Housing Conservation - The Housing Conservation designation functions as an overlay to the underlying General Plan land use category with special provisions allowing certain types of existing nonconforming land uses. The intent of the Housing Conservation overlay is to provide for the retention and maintenance of existing higher density residential development while restricting construction of new higher density development in key areas of historic value where lower densities predominate. Two areas have received this overlay designation, one low density residential area north of the I-10 freeway and east of Orange Street and one medium density residential area south of the downtown.

The City's residential neighborhoods are diverse in age, lot size, house size, dwelling type, and site design. The General Plan calls for conservation of mature neighborhoods and proposes new standards for developing neighborhoods in North Redlands. Review the City Design and Preservation Element, Chapter 3 for policies related to Design and Historic and Scenic Preservation. See the Housing Element Summary, Section 6, for policies relating to housing needs.

Guiding Policies: Residential Areas

4.40a Maintain the predominant single-family residential character of Redlands.

The Plan maintains the dominant share of Low-Density and Very-Low-Density housing.

4.40b Conserve older neighborhoods because they provide an essential component of the housing stock and are the primary component of Redlands' urban character.

Related policies are in Section 3, City Design and Preservation, and Section 6, Housing Element Summary. Older homes constitute most of the housing supply affordable by families of moderate or lower income.

4.40c Conserve existing citrus groves and encourage planting new ones along street frontages to be developed.

The result can be a significant presence of citrus, no loss of housing units, cleaner air, and a quieter living environment near arterial streets. See also policies in Section 7.41, Agriculture.

4.40d Encourage a variety of housing types to serve all economic segments of the community.

See also Section 6, Housing Element Summary.

4.40e Increase the variety of lot sizes in North Redlands.

4.40f Improve density and grading standards designed to preserve the natural appearance of steep hillsides and ridges.

4.40g Locate High and Medium-Density development near regional access routes, employment centers, shopping areas, and public services.

4.40h Encourage construction of small single-family homes on small lots as an affordable housing solution.

4.40i Encourage incorporation of residential units in Downtown mixed-use projects.

This is consistent with the Master Action Plan (1989) and the Downtown Redlands Specific Plan (Specific Plan No. 45) adopted in June, 1994.

4.40j Plan for continued operation of mobile home parks.

Redlands' mobile home parks are a major source of affordable housing and are generally well-integrated with their residential neighborhoods.

4.40k Take advantage of the desirable residential environment that can be provided among citrus groves to preserve agricultural land that otherwise would be subject to strong development pressures.

Crafton exemplifies a prime environment for homes in citrus groves.

4.40l Consider approval of Medium-Density residential development proposals at appropriate locations within the East Valley Corridor (EVC) Special Development District.

The General Plan does not project residential development within the EVC, nor does it include schools or parks to serve residential areas. However, substitution of residential development for business park would reduce projected traffic congestion. Peak hour traffic generated by each acre of Medium-Density residential development would be about 25 percent of that resulting from the alternative combination of office, retail, and industrial uses. About 10 to 20 percent of employed residents would be likely to work within the EVC.

4.40m Establish a range of residential densities and development standards which encourage a mix of housing types.

4.40n Protect residential neighborhoods by establishing policies and standards which discourage incompatible uses.

4.40o Establish guidelines which will encourage better neighborhood design.

4.40p Encourage underground utilities in all new residential development.

Implementing Policies: Residential Areas

4.40q Plan for a housing mix at buildout consisting of 69 percent Low-, Very-Low, and Rural Living units and 31 percent High, Medium and Low Medium-Density units.

This policy refers to density not housing type. Consequently, attached units or mobile homes at fewer than 6 units per gross acre would not be classified as Medium Density. High, Medium and Low-Medium-Density areas designated on the General Plan Diagram will accommodate approximately 3,000 additional housing units.

4.40r Consider amending the Zoning Ordinance and East Valley Corridor Specific Plan to eliminate or modify amortization provision of uses, particularly residential uses, and to allow reconstruction at the same density or intensity in the event of destruction by fire or natural disaster.

Zoning consistent with the General Plan will create nonconformity affecting the insurability of some properties unless the Ordinance is amended. The guiding policies of the General Plan do not preclude maintenance of these uses at their present density or intensity.

4.40s Land designated by the General Plan as Urban Reserve as of June 1, 1987, shall not exceed a density higher than permitted by the R-E zone designation unless otherwise approved by a 4/5 vote of the City Council.

The R-E zone specifies the minimum size of lots is 14,000 square feet and for a PRD within an R-E zone a maximum density of 3 units per acre.

4.40t On slopes 15 percent, buildings should be designed to accommodate the topography and minimize grading.

Stepped footings, multiple floor levels, and limited usable outdoor area may be essential to maintaining natural appearing hillsides. See also Policy 8.50i in Section 8.50, Seismicity, Geology, and Soils and Policy 3.10e, City Design.

4.40u Devise urban service standards that are financially feasible and suitable for Rural Living areas.

Current City standards are appropriate for lots smaller than the 2.5-acre minimum for sites under 15 percent slope in Rural Living areas. With an expected average of one house per 5 acres, it is possible to retain existing narrow roads and stone curbs in Crafton, and to substitute on-site water storage and sprinklers for a complete urban fire suppression system.

4.40v Devise and adopt standards for preservation of existing citrus frontages and for creating new ones.

4.40w Develop a Planned Unit Development (PUD) Ordinance which develops standards for the use of a PUD development option.

4.40x Review and comment on new development proposals when routed by adjacent jurisdictions through the environmental review process to identify and avoid potential land use conflicts.

4.41 Southern Area Hills and Canyons (Live Oak and San Timoteo Canyons)

The southern area of the City of Redlands is mainly rural, hilly and undeveloped. In the mid-1980's, the City adopted the Southeast Area Plan (General Plan Amendment No. 38) to ensure development consistent with the natural environment. The plan, described in 4.42, provides a background for the site analysis issues to be considered for development in the Live Oak and San Timoteo Canyon areas.

Implementing Policies: Southern Hills and Canyons

4.41a Encourage the use of Planned Residential Developments (PRD's) and Specific Plans in San Timoteo and Live Oak Canyon areas.

4.41b The policies, plans and requirements of the Southeast Area Plan (Section 4.42) apply to portions of Live Oak Canyon and San Timoteo Canyon as delineated in the General Plan.

These policies pertain to the geographic area generally identified as Sunset Drive on the North, Alessandro Drive on the West, Live Oak Canyon Road on the South, and South Lane on the East.

4.41c Permit the transfer of densities within a specific parcel of property and clustering of residential development to areas under 15 percent slope through the use of Planned Residential Developments (PRDs), Conservation Easements, and Specific Plans.

4.41d Major topographic features within the San Timoteo and Live Oak Canyon areas shall be preserved, maintained and where possible, enhanced. Major ridgelines should not be modified although development on a ridgeline may be allowed where there is offsetting need demonstrated.

For more detailed discussion of this policy refer to Section 4.42.

4.41e Within the Live Oak Canyon and San Timoteo Canyon areas, the canyon walls immediately below major ridges and vegetation thereon shall be preserved and enhanced where appropriate. Slopes that are in excess of 50% shall be preserved intact except for public safety needs.

4.41f Within the Live Oak Canyon and San Timoteo Canyon areas, where proposed development abuts an area of significant natural vegetation it shall be separated by a fuel modification zone which contains an all weather access roadway and water supply system having fire flow capacity. The Fire Department may modify these standards based on specific site considerations and use of alternative fire protective measures.

4.41g Preserve natural vegetation and wildlife areas to create wildlife corridors extending throughout the Live Oak Canyon and San Timoteo Canyon areas.

4.41h The San Timoteo watercourse should be preserved and enhanced as the backbone of a lineal parkway/activity corridor extending throughout the canyon.

4.42 Southeast Area

In 1988, the City Council approved the Southeast Area Plan, which covered the southeastern portion of the City. That Plan is now contained in this section of the Land Use Element, and in the section of the Circulation Element dealing specifically with the Southeast Area. The previous stand-alone Area Plan was repealed at the time of the adoption of the 1995 update of the General Plan and replaced by this section.

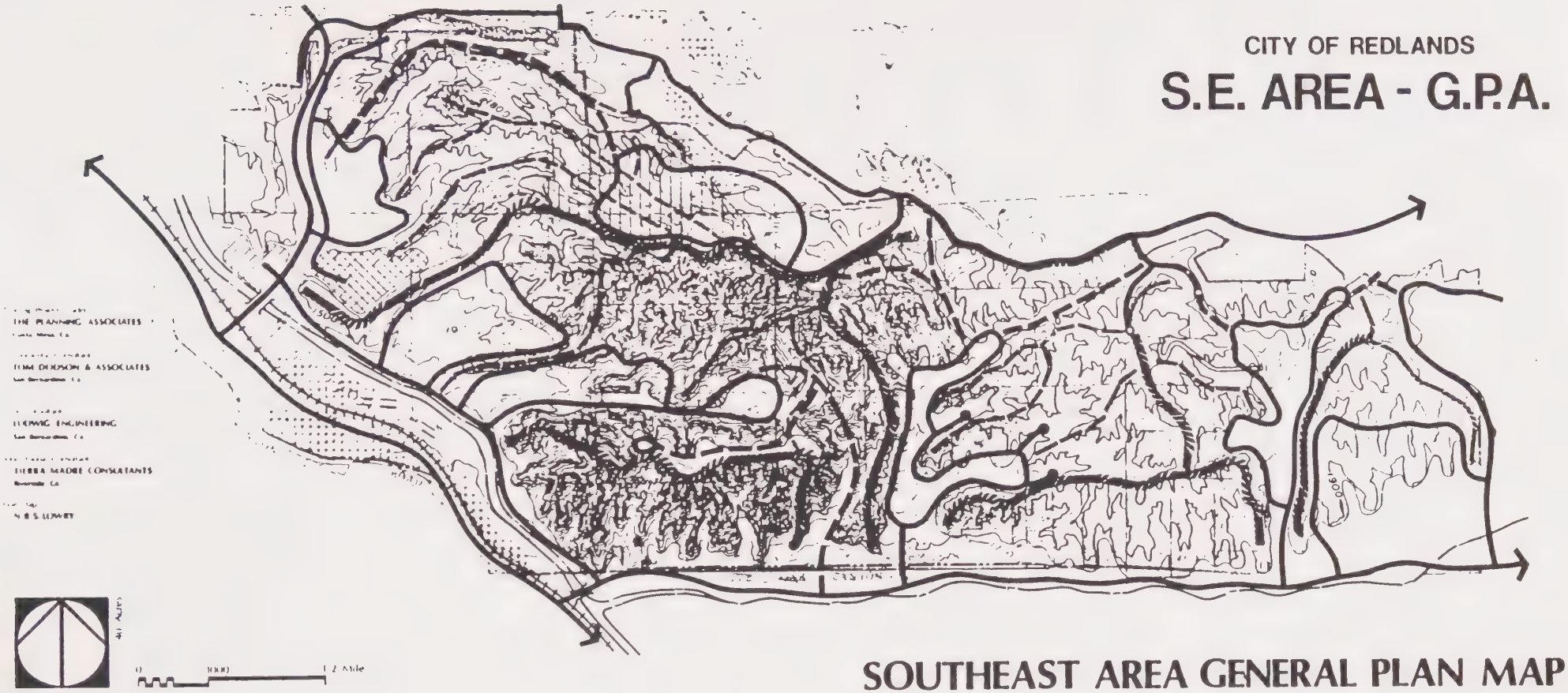
The area covered by the Southeast Area Plan is bounded by Sunset Drive on the north, Alessandro Drive on the west, Live Oak Canyon Road on the south, and South Lane on the east, as shown in GP Figure 4.2. The following section of the Land Use Element contains background information and policies for the Southeast Area.

The following section of the Land Use Element contains the following components, which together comprise the Southeast Area Plan:

- Objective of the Southeast Area Plan
- Planning Sectors
- Definitions
- Site Analysis
  - Landforms
  - Development Suitability
- Issue Analysis
  - Fire Safety and Prevention
  - Watercourses
  - Soils/Geology
  - Flora/Fauna
  - Access
  - Traffic *(Note: A complete discussion of traffic issues is contained in the Circulation Element)*
  - Utilities/Public Improvements
  - Community Identity
  - Coordination with Other Community Plans
- The Southeast Area Plan
  - Overview
  - Land Use
  - Circulation *(Note: A complete discussion of traffic issues is contained in the Circulation Element)*
  - Recreation and Open Space
  - Fire Prevention/Public Safety
  - Watercourses/Drainage
  - Utilities
- Guiding Policies: Southeast Area

Objectives of the Southeast Area Plan - The Southeast Area Plan was developed to create a plan for future development of the Southeast Area which:

- Permits development
- Maintains the character of the area
- Minimizes grading
- Provides for orderly development of the area in a manner that mitigates the problems of circulation, drainage, sewage, disposal, fire flow and water supply
- Provides the framework of the viable implementation program to carry out the Policies contained in this section



SOUTHEAST AREA GENERAL PLAN MAP

GP Figure 4.2

The preparers of the Southeast Area Plan, commenting in the document on the future of the area, said, "[Put] another way, the fate of this area will no longer be left to chance."

Planning Sectors - The Southeast Area Plan identifies 12 subsectors, the Planning Sectors, as shown in GP Figure 4.3. Because of the number and complexity of the Planning Sectors, the Southeast Area Plan does not provide a detailed plan of development for each Sector. A specific plan shall be developed for each of these sectors consistent with the Guiding Policies in this section. Policy 4.42a (at the end of this section) requires the preparation of a specific plan for each of the Planning Sectors. *A specific plan shall not be a prerequisite for the approval of any residential development project consisting of four (4) dwelling units or less within Planning Sector 2.*

Definitions- Because the Statement of Study Objectives for the Southeast Area consists of three directions Permit Development, Maintenance of the character of the area, and Minimizing grading which are subjective and relative and cannot be accurately quantified, the following definitions were developed and used to construct the Southeast Area Plan.

"**Permit development**" defined in the context of the Southeast Area Plan means that development is permitted, but limited in amount and in kind by the policies of this section of the General Plan. Permit development is further defined to mean that all parts of this area will hence forth be developed, maintained and/or managed to some degree.

"**Maintenance of the character of the area**" defined in the context of this effort means preserving the perceived character of the area by preserving and enhancing the signature features of the area.

"**Minimizing grading**" is defined as a general development concept in which a development project should be conceived and designed to use existing topography to the extent technically feasible, rather than designing a project in which extensive grading is used to modify the site to accommodate the project. In the Southeast Area, grading associated with the development shall minimize the modification of the perceived character of the area and shall favor individual, focused grading over mass grading. It should be noted that this does not prohibit mass grading concepts being applied in selective areas for valid reasons, so long as the grading does not significantly degrade or alter the perceived character of the area. It does dictate, however, that the necessity for any such mass grading must be real and supportable.

Area Analysis - Integral to the preparation of the Southeast Area Plan was an analysis of the Southeast Area. This consisted of an analysis of the landforms in the Southeast Area, the suitability of various slope gradients as "development sites," and the density of development which would be permitted in each slope category or area. Two issues are addressed in the following sections: 1) Landforms and 2) Development Suitability.

1. Landforms

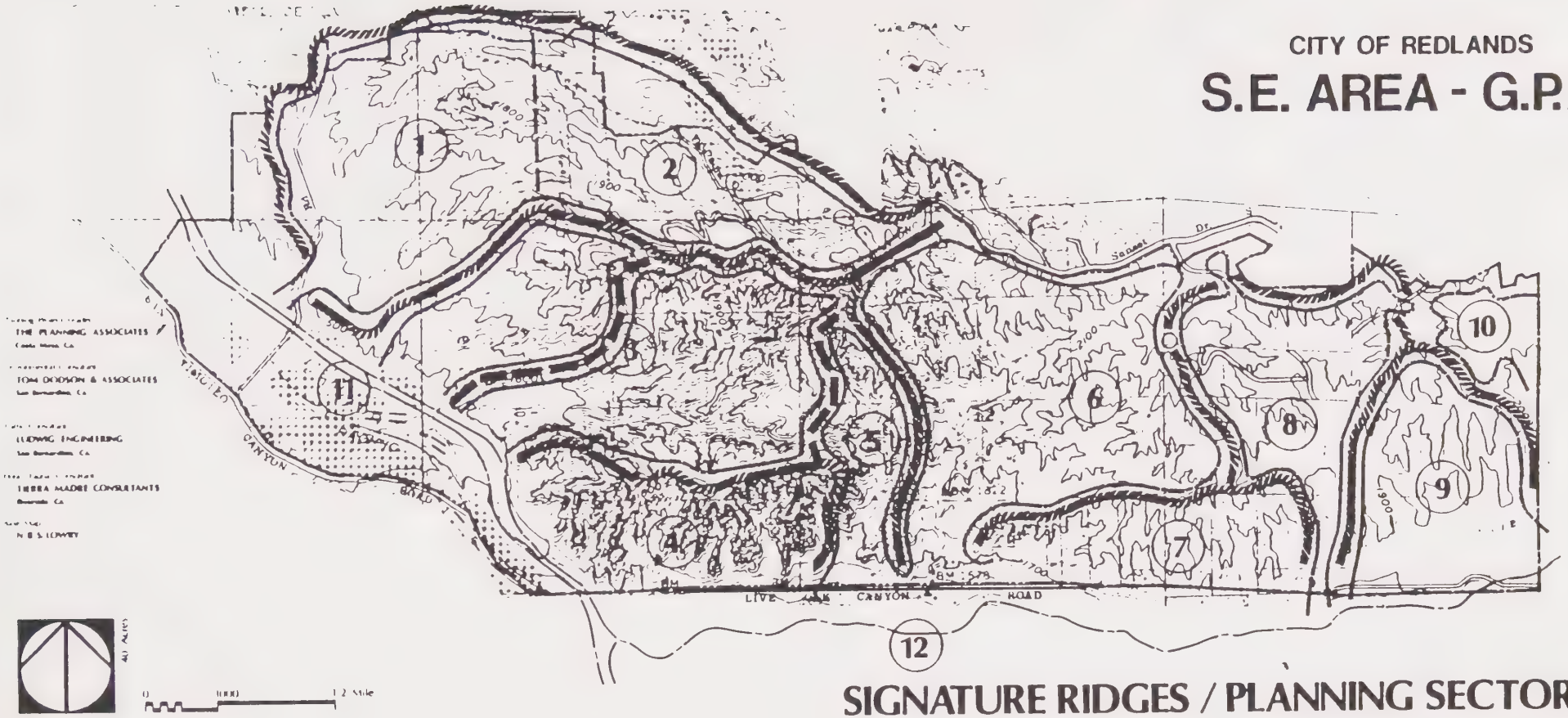
General Discussion: The Southeast Area is generally an escarpment falling away from the northern ridgeline defined by Sunset Drive (referred to hereafter as the Sunset Ridge). The Southeast Area generally falls away to the south and west towards San Timoteo Canyon and Live Oak Canyon. The area is made up of a complex series of ridges and canyons.

Close examination of the topography of the area reveals a series of major ridges which define approximately nine major drainage basins. These ridges, their associated basins, the two boundary canyons, San Timoteo and Live Oak, and the flora and fauna thereon constitute the majority of the signature characteristic features of the Southeast Area.

If the Southeast Area is to maintain its perceived historical and natural character, the perception of these signature features must remain intact.

CITY OF REDLANDS

S.E. AREA - G.P.A.



SIGNATURE RIDGES / PLANNING SECTORS

GP Figure 4.3

Policy 4.42b addresses preservation of signature features of the Southeast Area.

Signature Feature Discussion: In order to preserve and enhance the perceived character of the signature features, it is necessary to define the features which form this perception. The following analysis focuses on these features: the ridges, the canyon walls, and the canyon floors.

The easiest features to describe and quantify are the signature ridges. These ridges are those which define a significant edge, either in the foreground or at a distance. On-site observations and an examination of the topography of the Southeast Area led to the designation of five ridge formations as signature ridges. These ridges also separate the major drainage basins within the area. Signature ridges in the Southeast Area are shown in Figure 4.42B.

Policy 4.42d deals with protection of ridges within the Southeast Area.

These basins basing between the signature ridges are designated signature basins.

The next element to be considered below the signature ridges is the canyon walls below. These walls are, with few exceptions, steep; many walls are in excess of 50% gradient. They are rugged and integral to our perception of the ridge above. Their rugged facades are, in fact, a major part of the ridge character. Thus, these walls (with few exceptions) should remain intact as landforms. Even minor intrusions into these walls would produce significant grading and would in most every case leave noticeable scars in highly visible locations.

Another feature of these walls is the vegetation growing on their faces. This vegetation forms a part of our perception of the wall and ridge since we actually see in many cases the vegetation, not the dirt beneath. Thus, the preservation and, even enhancement of this vegetation seems important to the maintenance of our perception.

Policy 4.42c deals with preservation of the canyon walls in the Southeast Area.

In addition to the signature ridges are the myriad of lesser ridges which thrust out of these major walls into the canyons below. These ridges and the canyons between are a part of the internal canyon perception, since they are perceived as being "in the canyon". As internal features they do not individually make signature statements, but collectively they do to some degree. Lesser ridges which are considered especially important due to their size or location are shown as major ridges on Figure 4.42B.

Some of these ridges (a few in number) extend far enough into the canyon to become significant dividers between sub- sections within the canyon. Thus, they become second level statements within the canyon environment. Major modification of these forms will change the form of the internal canyon and should therefore be viewed as significant, and should not be permitted without valid offsetting reason.

On the other hand, most of these internal ridges are not predominant and their major visual statement is to appear as buttresses supporting the wall above. As such, their total removal would be significant, but the reforming of their lower extremities could leave their statement intact. Such reforming could in many instances increase and/or create adjacent canyon bottom area. Whether such reforming could be accomplished within the context of minimum grading would and should depend on the specifics of the given situation.

Policy 4.42e addresses modification of ridges which are not signature or major.

Canyon bottoms have been divided into two types: very narrow and broad.

There are two basic narrow canyon structures in the Southeast Area. First, the majority of the narrow canyon structures occur on the slopes leading down from the major and secondary ridges. These canyon bottoms are not a part of the external observer's perception because they are buried down within the canyons. The external observer sees a series of ridges close together and the narrow spaces between the ridges down in the canyon as a part of the canyon wall system, not the actual narrow canyon bottoms themselves. Thus, these bottoms are best seen from within the canyons themselves. To date, these canyon bottoms are typically seen by a very limited group of people, including mostly hikers and equestrians. As development occurs, this group will become dominated by the residents in the canyons. Because these narrow canyon bottoms are really not a part of the existing perception of the area, they can be modified to accommodate the proposed development without significantly interfering with the perceived character of the area.

Policy 4.42f deals with modifications to narrow canyon bottoms.

The second narrow canyon structure occurs primarily in one area and is highly visible. Specifically, this structure occurs in the northwest portion of the Southeast Area between Planning Sectors 1 and 2. This structure consists of a series of narrow ridges, all of about the same elevation, divided by steep narrow canyons running parallel to each other for a significant distance. The perception of this structure is of a procession of narrow ridges and steep canyons, not the narrow canyon bottoms within. This structure covers an area of some 100 to 120 acres, is readily visible from both Sunset and Alessandro, and is within the over 50% slope area previously discussed. Because of this, preservation of this characteristic feature is warranted.

Policy 4.42g addresses preservation of this specific ridge/canyon feature.

Live Oak Canyon and San Timoteo Canyon: These two canyons separately and together are signature elements of the area and therefore should receive specific attention.

Live Oak Canyon: The majority of this canyon is outside the sphere of influence of Redlands (and outside of san Bernardino.County, since the county Line is approximately coterminous with the existing alignment of Live Oak Canyon Road). Nonetheless, this canyon and its character are important to this area of the city. Therefore, the City should act as a strong positive force in the planning for this area.

Policy 4.42h deals with development in the Live Oak Canyon area.

It seems clear that the existing roadway in Live Oak Canyon will be rebuilt and/or significantly improved in the near future to accommodate development to the immediate south in Riverside County. This roadway is designated as an "at-grade, 4-lane Arterial Highway" on the San Bernardino County Master Plan of Highways and as a "100 -foot right of way Major Highway" on the Riverside County plan. Thus, the only questions are how soon will this upgrading and realignment occur and what form will it take. This issue should receive strong attention from the City of Redlands to ensure consistency with the Southeast Area Plan.

The form proposed is one which preserves the perception of the watercourse and the canyon character by creating a linear parkway with a watercourse forming the backbone, or centerline, of the roadway.

The mechanism to accomplish this would be to relocate Live Oak Canyon Road to border the watercourse rather than ignore and/or avoid it. Further, the watercourse itself should be preserved and enhanced by a planned right-of-way acquisition program, followed by a park improvement/tree planting program to enhance the watercourse signature characteristic statement.

The land between this linear parkway and the base of the hills and canyons to the north is relatively level and developable.

Policy 4.42i requires further, detailed study of Live Oak Canyon.

San Timoteo Canyon: This canyon is similar to Live Oak Canyon, but larger and more complex. Not only does this canyon contain an even more significant watercourse than Live Oak Canyon and a roadway of equal magnitude, it also contains one of the most significant manmade features on the Southeast Area: the mainline rail facilities.

These rail facilities are significant on an areawide basis because of the perception of the sight and sound of the passing trains. These sights and sounds are a signature characteristic of the area and, consistent with the basic premise of this study, should not be lost or hidden.

San Timoteo Canyon Road is shown on the San Bernardino Master Plan as "at grade, 4 lane Arterial Highway" and on the Riverside County Plan as a "110-foot-wide arterial highway (4 lane divided, minimum). Redlands should strongly advocate that these improvements support the signature characteristics present. If San Timoteo Road is realigned, the design should maintain and/or expand its alignment adjacent to the rail line to 1) protect the rail line, and 2) to allow greater viewing and enjoyment of the trains as they pass through the canyon.

In order to minimize traffic impact over Alessandro Road no matter how little the development in the Southeast Area San Timoteo should be structured to provide "easy access" to the I-10 Freeway. This could be accomplished by connecting San Timoteo Canyon Road to the I-10/California Interchange. Such a connection would result in only a very minor traffic load increase on San Timoteo, but could significantly reduce the loading on Alessandro and perhaps some of the other Sunset connections.

Policy 4.42j addresses the design of any future realignment of San Timoteo Canyon Road.

The San Timoteo Canyon watercourse is a graded channel throughout its length in the Southeast Area. This channel should, as in Live Oak Canyon, be the backbone of a linear parkway which includes the watercourse, an equestrian/hiking trail, bike/pedestrian paths, linear park improvements, and a parkside roadway. The parkside roadway envisioned serves the park and also the land uses to the north and west within the interior of Planning Sector 3.

Policy 4.42k addresses the design of the San Timoteo Canyon watercourse as a backbone visual/recreational feature of the Southeast Area.

The sliver of land running between the rail line and the San Timoteo Creek watercourse presents a challenging land use opportunity which should not be lost. This area has limited land use possibilities and should, therefore, receive adequate attention to ensure a positive use if the existing citrus grove operation is ended. One use compatible with the character of the area for example, would be that of a combined retail-wholesale nursery operation fronting on Alessandro Road.

Policy 4.42l addresses land use for the land between San Timoteo Creek and the rail line.

Alessandro Road: Alessandro Road will requires realignment and improvements even when applying very low density scenarios to the Southeast Area. A discussion of this roadway and its design is contained in the Circulation Element of this General Plan.

2. Development Suitability, a Gross Analysis

Traditionally, governing jurisdictions and to a large extent the developer community have viewed slopes in excess of a 25 to 30 percent gradient to be unsuitable for development in their natural condition. In most cases, unless such slopes can be mass graded into a more usable form, they are unsuitable for development, except for "custom solutions."

Thirty percent (30%) was used as the criteria for preparation of a gross analysis for the Southeast Area. This choice was made for two reasons. First, a 30% slope analysis was available at the time the Southeast Area Plan was prepared, and secondly, 30% produces a "worse case" result which is a more conservative way to analyze the issue.

The slope/development compatibility analysis was divided into slopes of 0 to 15% and 16 to 30%. The rationale for this is the recognition that as the gradient increases the grading design of the roadways more and more dictate the overall design solution. This occurs because when a roadway gradient exceeds 10 to 15% severe design constraints are required. Thus, the roadway design becomes the limiting factor and integration of the roadways into slope designs of over 20 percent necessitates significantly more and more circuitous routing and/or grading (usually both).

Coupled with this is the fact that the economics of development favor mass grading (solving the grading solution on a large scale, rather than by a series of individual site specific graded solution) as the gradient increases. Also, the economics of development favor mass grading on any given slope as the density of development increases.

Thus, "minimization of grading" dictates lesser densities on steeper slopes, even within designated development areas.

Policy 4.42m provides a slope-to-density ratio for the Southeast Area.

Issue Analysis - An important aspect of the creation of the Southeast Area Plan included the identification of a variety of issues specific to the area. The following issues were identified:

1. Fire Safety/Prevention
2. Watercourses/Drainage
3. Soils/Geology
4. Flora/Fauna
5. Access/Traffic
6. Utilities/Public Improvements
7. Community Identity, Internal and External
8. Coordination with Other Community Plans

These issues are discussed in the following sections.

1. Fire Safety and Prevention

The nature of the chaparral and sage vegetation in the Southeast Area is such that fires are a natural phenomenon. This reality results in the creation of a potential for disaster when development is permitted in close proximity to significant stands of this vegetation. This occurs because this vegetation not only burns, but burns fiercely. This is amplified by the fact that the longer the vegetation goes without a fire the more volatile it becomes, because the dead material collects beneath the live material. So long as fires do not occur, the amount of fuel present increases.

In response to this problem in both San Bernardino and Riverside Counties, comprehensive criteria for the design of the interface between inhabited areas and vegetational areas have been developed. Essential in all these criteria are:

- The need to develop fuel modification zones around inhabited areas,
- The need to provide access to the interface edge of the fuel areas,
- The need to, if at all possible, provide a water supply with fire flow capacity to the interface edge so defined.

Policy 4.42n addresses the provision of fire protection zones at the boundary between development and natural vegetation.

2. Watercourses

This issue contains two elements: drainage/flooding and aesthetics.

The issue of drainage and flooding is the easiest to define and understand because when isolated it is subject to an engineered solution assuming money is not a factor. The issue of aesthetics is no more difficult than drainage, but it less easily perceived and therefore less well understood. When introduced into the drainage/watercourse discussion it becomes a constraint on the engineered solution to the quantitative flood problem. In summary, if the character of the canyon is to be preserved, then the character of the watercourse cannot be altered so as to destroy its contribution to the canyon character. Thus, the engineered solution must not only solve the flow problems. It must also ensure the character of the watercourse is protected and preserved. There are a variety of ways in which this can be accomplished, ranging from leaving the existing watercourse intact to totally relocating the watercourse alignment and creating a new "natural appearing" watercourse.

Policy 4.42o addresses the protection of the appearance of natural watercourses in the Southeast Area.

3. Soils/Geology

The soils found in the Southeast Area are primarily Hanford course sandy loam (HaC), Ramona sandy loam (RmE2), San Emigdio fine sandy loam (ScC), and Saugus sandy loam (ShF). These are all similar in character: moderately erosive in nature and suitable for moderate dry farming, pasture and citrus. In terms of agricultural productivity, these soils rank as follows, Grade 1 being most suitable and Grade 6 being least suitable:

Hanford (HaC)	Grade 1
San Emigdio (ScC)	Grade 1
Ramona (RmE2)	Grade 3
Saugus (ShF)	Grade 6

Source: Soil Survey of San Bernardino County, U.S.D.A. Storie Index Rating.
Grade 1 is described as "excellent and well suited to general intensive farming". Grade 3, "only fairly well suited". Grade 6, "soils and land types that are not suitable for farming".

Within the Southeast Area, the Hanford and San Emigdio soils (Grade 1, "excellent and well suited") are found in the San Timoteo, Live Oak, Alessandro and other large canyon bottom areas. The Ramona (RmE2, "only fairly suited") is found on several of the ridge top areas, primarily the larger rounded ridge tops such as the area adjacent to and south of the Fairmont/Edgemont area. The Saugus (Grade 6, "not suitable") is found on the steeper slope areas of the entire Southeast Area.

From the perspective of engineering compatibility or the suitability for development the U.S.D.A. report indicates the following:

Hanford (HaC) - offers only slight limitations to dwelling unit location and septic tank absorption.
Ramona (RmE2) - offers only slight limitations to dwelling unit location, but severe limitations to septic tank absorption due to moderately slow permeability.
San Emigdio (ScC) - offers only slight limitations to dwelling unit location and septic tank absorption.

Saugus (ShF) - offers severe limitations to both dwelling unit location and septic tank absorption due primarily to the inherent slopes.

With regard to geology, research indicates the existence of several minor and dormant faults running in a more or less east-west alignment within the Live Oak - San Timoteo Canyon area. To the south of and parallel to San Timoteo Canyon outside the Southeast Area is an active fault line.

In summary, it appears there are no soil or geology problems or conditions which are so severe as to preclude development of any significant portion of the Southeast Area. If the consideration of "minimal grading" is inserted, the situation changes. But, with the exception of grading, the soils and geology of the Southeast Area do not appear to present any major limitation to development. It should be noted, however, that the ridge top area adjacent to Fairmont/Edgemont appears to require an urban sewer system if developed, due to limitations on the use of septic tank/leach field systems in that area. With this note, it appears the normal soils and geology analysis done in conjunction with specific developments will be sufficient to handle localized soil and geology conditions which may exist.

On the other hand, it also appears that there exists several areas of Grade 1 agricultural soils which are of sufficient size as to perhaps warrant preservation consideration. In order of size these are:

1. San Timoteo Canyon, except for the watercourse itself, Planning Sector 11.
2. Live Oak Canyon, except the watercourse, Planning Sector 12 and the southerly portion of Planning Sector 9.
3. Alessandro Canyon and the canyon bottom fingers related thereto, Planning Sector 1.
4. The canyon bottom in Planning Sector 8, and
5. The canyon bottom in Planning Sector 6.

Policy 4.42p addresses the preservation of agricultural uses in the Southeast Area.

4. Flora/Fauna

The predominant vegetation within the Southeast Area is the Chamise Chaparral and Coastal Sage Scrub communities. It has been noted that conditions in the Southeast Area could support certain sensitive plants, but to date none have been located. It has been further concluded that, due to the generally degraded and somewhat poor condition of the Southeast Area (from the standpoint of natural habitat), no sensitive plant communities are expected to be present (Expanded Initial Study, Tract 13025, March 13, 1986).

On-site examination of the vegetation indicates it is healthy but not significant as to size, variety, abundance, or vitality. The larger vegetation seems to be limited to Live oaks, eucalyptus and pepper trees. These seem to be few in numbers and individually scattered. There appear to be only two significant exceptions to this generality. In Planning Sector 10, on the Southeast Area boundary, there are numerous Live oaks located in close proximity, forming a "plain of oaks" effect. In Planning Sector 1, just below Sunset Drive, there is a stand of introduced eucalyptus in the canyon bottom.

Similarly, the animal life associated with the on-site vegetation does not appear to be particularly distinguished. It consists primarily of small reptiles and rodents and the smaller predators which prey on them. Evidence of only a very few larger animals, coyotes and deer, was found. This is not surprising, given the lack of vegetation both as food and as cover.

Policy 4.42q addresses preservation of on-site plants and animals.

5. Access

The manner in which the Southeast Area has been "historically" accessed from the surrounding areas and traversed internally is as much a part of the perceived character of the area as the signature ridges or canyons discussed earlier. Thus, the access ways, whether they be roadways or trails, follow and continue the perceived characteristic access pattern of the area.

Note: Discussion and policies related specifically to roadway access in the Southeast Area are contained in the Circulation Element of this General Plan.

Historically, in the days before mass grading was used to created developable areas, access routes were laid out in the field by someone by foot or horseback. This resulted in the selection of routes which were very sensitive to steepness of slope, and led to routes which followed the contours, moved up canyons, crossed over saddles, and traversed atop wider ridges. It is these characteristics which should be preserved as development of the Southeast Area is undertaken.

Historic access to the Southeast Area has occurred off the major surrounding roadways (San Timoteo Canyon Road, Alessandro Road, Live Oak Canyon Road), or down the ridges from Sunset Drive. This pattern is varied in some places where saddles or gentle ridges permitted easy passage up (and in some cases over) the ridge line.

Specifically, a Planning Sector by Planning Sector analysis indicates the following historic patterns:

Planning Sector 1: Primary access to the vast majority of the develop area within this sector has been up-canyon from Alessandro. There appears to have been some exception to this in that the most northerly ridge (the closest to Sunset) has been leveled off and access to this ridge top is down-ridge from a road leading off Sunset Drive.

Planning Sector 2: This is a plateau area where the finger ridges which extend to the west begin. As such, this elevated and developed area is attached to and related to Sunset ridge and takes its historic access from Sunset Drive.

Planning Sector 3: This major canyon basin in made up of a series of lesser canyons, all following the same basic alignment, running from the edge of Planning Sector 2 southerly and westerly into San Timoteo Canyon. Because the canyon wall escarpment which is the dividing line between Planning Sector 2 and 3 is quite steep, access to the canyons within this basin have historically been up-canyon from San Timoteo.

Because there is but a low ridge separating Planning Sector 1 and 3, there has been historical access into 3 over this ridge from Alessandro.

Similarly, the ridge separating Planning Sector 3 from 5 appears to have been a historical access route of a sort. In this instance the ridge is of significant size, but the western side of it (the Planning Sector 3 side) is made up of a series of relatively gentle slopes. Thus, it has provided "easy" access to the ridge top area which also happens to be rounded in character.

Planning Sector 4 and 7: These two sectors appear very similar from an access point of view. Both are relatively steep escarpments tipping down to Live Oak Canyon. Both are characterized with several short narrow canyon fingers extending in from Live Oak. Because of the steep topography, it appears the historic pattern has been almost exclusively up-canyon from Live Oak Canyon.

Planning Sector 5: This canyon is narrow, steep and about 1/3 mile in length. Because of this it appears the historic access has been up-canyon from Live Oak Canyon.

Planning Sector 6: This canyon sector is one of the largest in the Southeast Area. Historically, this canyon appears to have been primarily accessed up-canyon from Live Oak. In more recent times it appears frequent access has also come down-canyon from Sunset Drive at Edgemont. Also, some access has been taken from Sunset Drive at approximately Vinton.

Planning Sector 7: (See Planning Sector 4, above)

Planning Sector 8: This canyon sector is smaller than Planning Sector 6, but appears to contain significant developable area. The historic access has been up-canyon from Live Oak with some access in from Sunset via several canyon heads. Recent developments in the area have left street stubs pointing down into the top of this canyon at these canyon heads. So, like 6, it seems the historical major access has come in from Live Oak with some lesser access from Sunset Drive.

Planning Sector 9: This sector consists of basically a series of rounded fingers emanating from a low peak location and spreading out towards Live Oak Canyon in a southerly direction. As such the primary historic access has been up-canyon and up-ridge to some extent from Live Oak. Because of the rounded nature of the internal ridges, some access has crisscrossed the Southeast Area. While the historic access to this sector has not been as focused as some of the others, it has been primarily in from Live Oak Canyon and primarily up-canyon.

Planning Sector 10: This sector is basically a relatively gentle sloping basin tipped towards Live Oak Canyon. Internally the canyon swings from a southerly line to a westerly line, narrows somewhat and then enters Live Oak. Given the gentle nature of the topography it is somewhat difficult to pinpoint an historic access focus. Nonetheless, it appears the primary access was up-canyon from Live Oak Canyon.

Policy 4.42r addresses access into each of the Planning Sectors in the Southeast Area.

Consistent with the discussion above, internal access within each Planning Sector should follow the natural contours as closely as safety considerations will allow. Access routes which require significant cuts and/or fills should be precluded. This will result in routings which are more curvilinear and undulating and "historic" in character, design and feel.

Policy 4.42s addresses internal access within each Planning Sector

Policy 4.42s is not intended to preclude appropriate mass grading solutions within the developable areas, rather it is intended to ensure the final product will continue to be perceived as natural and possessing an historic feel and flavor. Also, this is not intended to preclude the construction of connections necessary for safety or capacity. On the other hand, it does argue strongly against the idea of a roadway running perpendicular to the ridgelines (for example, or a roadway sliced up the canyon wall to reach the ridgeline).

6. Traffic

Traffic issues specific to the Southeast Area are addressed in the Circulation Element of this General Plan. That Element should be consulted for specific guidance on traffic and roadway issues not contained in this section.

7. Utilities/Public Improvements

Since the primary objective of the Southeast Area Plan is to preserve the perception of the historic and natural character of this area, it follows that public improvements and utilities in the area should not produce contrary results. This, in general, means these facilities should be installed in a manner either

"invisible" (under ground), on "in character" with the historic character of the area (a relocated watercourse, for example.) Further, the aesthetics associated with the design of necessary "above ground" facilities should be rural and natural in flavor.

A highly visible element in this discussion will be the local roadways. Careful attention should be given to these roadways to ensure they have the design capacity determined appropriate and that they look and feel rural and natural.

A special note is appropriate here. One of the characteristics of Redlands over the years is that it has always been perceived as having higher quality than surrounding communities. A significant part of this statement has been made via the elegance of the streets within the town. As an example, streets in Redlands had curbs when others didn't, and the city had wide avenues when others had narrow dirt roads. Carried over to the Southeast Area Plan, it seems these "rural/natural roads" should be of comfortable width and have a finished edge treatment which makes a quality impression.

Policy 4.42t requires that utilities and public facilities be designed to protect the character of the area.

8. Community Identity

The Southeast Area consists of a series of identifiable parts which together make up the whole. Each of these parts, though similar in many cases, has its own unique characteristics. This internal diversity characteristic is one of the overall perceived signature characteristics of the area. This diversity characteristic should be preserved as development of the area occurs.

Policy 4.42u addresses the preservation of signature characteristics within each Planning Sector.

9. Coordination with Other Community Plans

This issue was addressed in the creation of the Southeast Area Plan through input from other city departments, the counties of Riverside and San Bernardino, and the community (now the City) of Yucaipa. Consideration was also given for private plans in process for properties around the Southeast Area. This has been particularly true in reference to the proposed 6,250 acre mixed-land-use plan being developed for the property south across Live Oak Canyon. This plan (Oak Tree West) is proposing a major access point off of Live Oak Canyon Road and the development of approximately 12,000 dwelling units over the next 15 years.

The Southeast Area Plan - The following sections provide the details of the Southeast Area Plan. Policies applicable to the Southeast Area follow.

1. Overview

This planning effort for the Southeast Area focused on developing a compilation of logical and integrated general plan policy statements which provide guidance to specific planning efforts for each of the identified Planning Sectors:

The General Plan Map is intended to *conceptually* illustrate how policies could be implemented, not where specific features would be required, as in a Specific Plan. (See Exhibit 4.42A.)

The following is a brief summary of how the basic General Plan Elements issues of Land Use, Circulation, Recreation and Open Space, Fire Prevention/Public Safety, Watercourses/Drainage, and Utilities, are addressed in the Southeast Area Plan.

2. Land Use

The following is a summary of land uses within the Southeast Area Plan:

Southeast Area Plan
Land Use Summary

Open Space Areas		**Area (Approximate)**
Preserved natural open space		500 acres*
Developable Area		
Residential @ 0.1 0.2 DU per acre (1 DU per 10 acres 1 DU per 5 acres)	116 acres	
Residential @ 0.4 DU per acre (1 DU per 2.5 acres)		554 acres
Residential @ 1 DU per acre	790 acres	
Recreation Area		50 acres
Public Facilities**		44 acres
Parks and Structured Open Space		25 acres
Circulation (7.4% of developed areas)***		126 acres
Developable subtotal		*1,705 acres*
TOTAL AREA:		2,205 acres (approx.)

Notes:
All figures in the table above are approximate and subject to refinement based on detailed studies.
** These acreage figures are estimates, based on a gross analysis of topography within the Southeast Area, and do not represent a commitment by the City to provide these lands in any particular amount or location.*
*** Includes railroad and flood control right of way.*
**** In this table, Developed areas are defined as those which will not remain in open space use.*

The most significant component of this land use plan is its approach to the preservation of the historic character of the area. The plan identifies the major *perceived* characteristic features of the area as the signature characteristics. The plan approaches all development proposals and requirements from the point of view of preserving these *perceived* signature characteristics.

Policies 4.42y, 4.42z, 4,42aa, and 4.42bb address protection of the character of San Timoteo and Live Oak canyons, both within and outside the City of Redlands.

Because of this, approximately 500 acres are proposed to be preserved as natural open space. The other land uses proposed are generally traditional in nature and extent. Residential land use is proposed as exclusively low density of a rural character. Other land uses result from the need to include certain recreational/open space uses. This has all been done in the context of preserving the historic natural character of the area.

Preserved Natural Open Space: Because the plan proposes a large amount of open space it is appropriate to indicate, in general terms, how this preservation could be accomplished.

First, in terms of acquisition there are a variety of tools available to the City which could be used to accomplish ultimate acquisition of such lands. It is recommended that a specific study be undertaken to develop a definitive acquisition program. Potential acquisition methods include:

Outright purchase
Dedication in conjunction with development
Agricultural preservation
Density trading via PRD's
Gift, and
Condemnation

Second, in terms of preservation after control is obtained, preserved areas should be managed to limit their degradation and this in turn should enhance their quality. Certainly, the introduction of more people into the area suggests more usage and greater possible degradation. This does not have to be the case. A positive program of preservation should be developed and promoted by the community at large to preserve this native environment. It is this kind of community education and participation program which Redlands has been noted for over the years and it seems very appropriately applied here.

Residential Land Uses: The density figures within the planning areas are: 1 unit per acre for slopes 0 to 15%, 1 unit per 2.5 acres for slopes 15 to 30%, and 1 unit per 10 to 5 acres for slopes over 30%.

3. Circulation

Circulation issues associated with the Southeast Area are included in the Circulation Element of this General Plan.

4. Recreation and Open Space

A major feature of the Southeast Area Plan is the potential for recreational use. This is highlighted in five significant ways:

First, the large tracts of preserved open space are well suited for hiking and riding trail use. Traditionally, the area appears to have been traversed by these trails; the Plan proposes to preserve these characteristic use along with the topography and vegetation. These trails tend to traverse the ridgelines and canyon bottoms and it is proposed this be continued where no development is to take place. In those areas where development is proposed, the Southeast Area Plan calls for provision of the continuation of these trails perhaps totally rerouted, but nonetheless continued. The important concept in the development areas to remember is that the trails' *characteristic* is to be continued, not necessarily any given trail. By the same token, the Southeast Area Plan encourages the expansion of the trail system as appropriate.

Second, the equestrian facilities at the bottom of Alessandro Road appear to be a longtime, if not historic, perception to many people and a characteristic of the area. As such, its preservation is consistent with the concept of the Plan. As long as the general area remains rural in character, it would seem an equestrian facility of some size could remain viable in this location. Independently of this study, this facility has been identified by the Open Space Committee as a community asset worthy of preservation. The Southeast Area Plan shows the continuation of this facility as a land use and incorporates it into the proposed trail system.

Third, there are two significant stands of trees in the Southeast Area: one in Sector 1, just below Sunset Drive, and the other in Sector 10 at the edge of the Southeast Area. The Southeast Area Plan calls for each of these assets to be the foundation for the development of a maintained park, including parking, open spaces, picnic facilities, and so on.

Fourth, the two major abutting watercourses, San Timoteo and Live Oak creeks, are proposed to be the focus of parkway development to create a continuous scenic greenbelt parkway system all along the southwesterly edge of the city.

Finally, the plan contemplates development of traditional neighborhood type parks as appropriate within the developed areas.

5. Fire Prevention/Public Safety

Fire Prevention: The Southeast Area Plan is predicated on the concept of preserving large tracts of chaparral and sage vegetation. Given the known fire hazard related to placing development adjacent to these highly flammable areas, the plan proposes that each developed area be encircled and protected by a Perimeter Fuel Modification/Access Area (PERFUMAA) which includes the following required and desired public facilities. The PERFUMAA is illustrated in GP Figure 4.4.

The required facilities included in the PERFUMAA are:

1. A perimeter all weather roadway.
2. A fuel modification area with a minimum cross section of 100 feet.
3. A water delivery system capable of delivering "fire flows" and including appropriately spaced hydrants.

The desired facilities which could be included in the PERFUMAA are:

1. A reconstruction of the natural watercourse found within the canyon areas (discussed more fully under Watercourses, below).
2. Equestrian trails.
3. A ribbon-like parkway between the roadway and equestrian trail.
4. Whatever additional landscaping and walking trails are desired and appropriate.

In order to minimize fire danger within the developed areas, the Southeast Area Plan proposes that all natural vegetation within any developed area should be removed and/or modified (installation of irrigation, for example) prior to initial occupancy of that area.

Policies 4.42w and 4.42x address fire protection issues in the Southeast Area.

Other Public Safety Uses: The Southeast Area Plan contemplates the need for some public safety facilities, but does not provide detailed locations for these facilities. The types, numbers, and locations of these uses are a direct function of the land use and density finally approved, and will be planned and sited as development warrants.

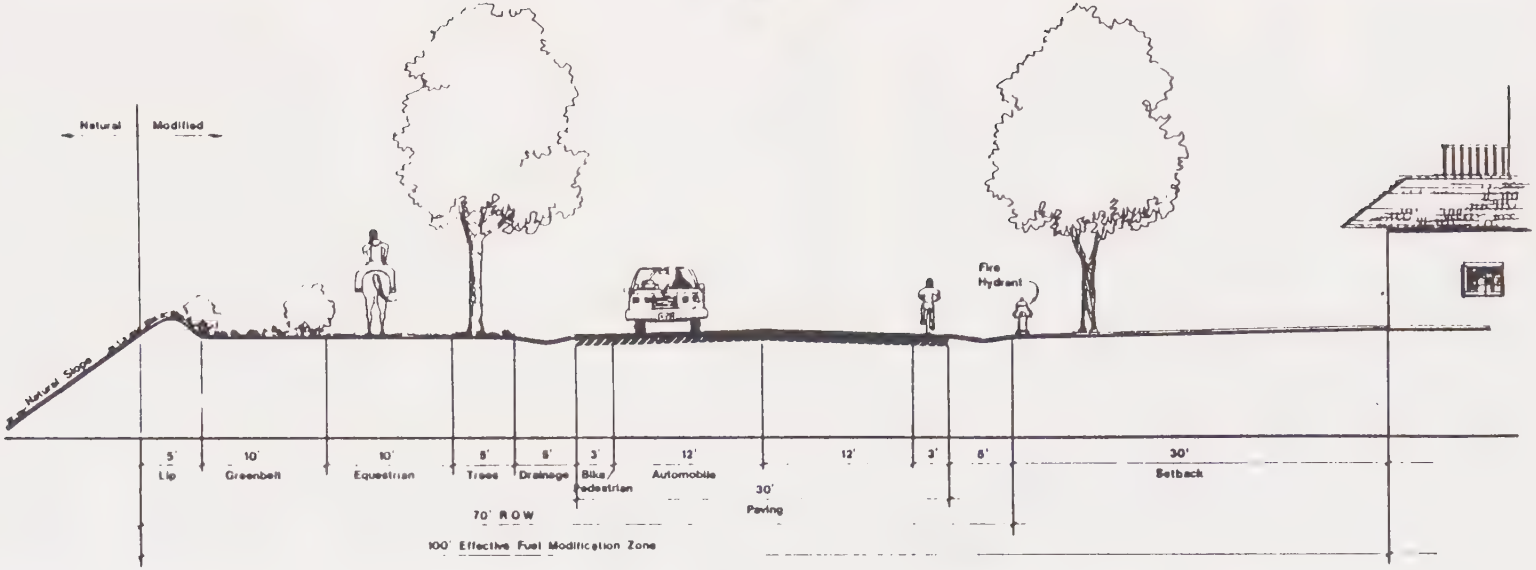
6. Watercourses/Drainage

As noted earlier in this section, two types of canyons narrow and wide are found within the Southeast Area. These two divisions also facilitate this discussion and are used here.

Narrow canyons: Because no significant development will extend into these narrow canyons, the watercourses should be left intact. The exception to this will occur where drainage structures are required to facilitate approved development, upstream or downstream.

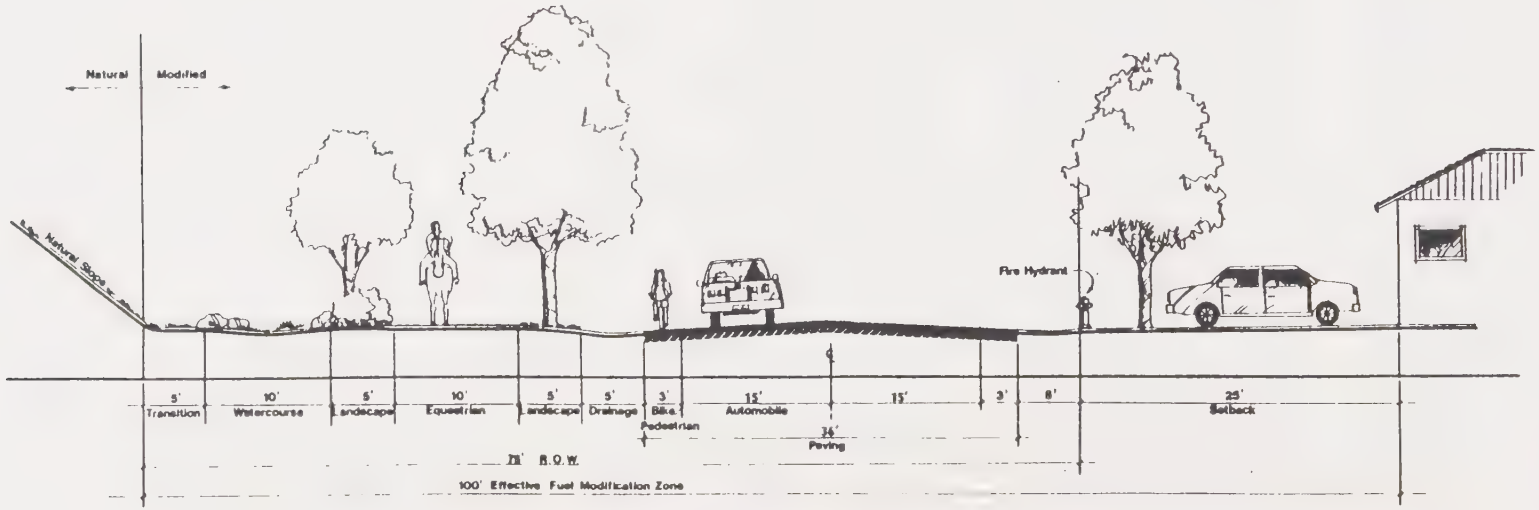
Wide canyons: Once the canyon widen to the point of providing sufficient dimension to accommodate development or when the narrow canyon empties into a larger canyon, the watercourse should be modified and restructured.

Specifically, the Southeast Area Plan proposes to route the watercourse around the edge of the canyon rather than through the center, whether or not that is the current alignment of the watercourse. This is not as radical as it may first sound and accomplishes several positive objectives at once.



RIDGETOP 'PERFUMAA'

1/4" = 1' 0"



CANYON BOTTOM PERIMETER 'PERFUMAA'

1/4" = 1' 0"

GP Figure 4.4
Roadway Cross Sections

First, it was noted in the field that most every one of the wider canyons have been recontoured by man in the past, apparently for agricultural purposes. Thus, the "natural watercourses" are in reality reconstructed already. Further, the wider canyons are more or less flat on the bottom so the watercourse therein could relatively easily go one direction as another. It therefore appears the proposed reconstruction would not be unnatural nor would it be particularly difficult.

Second, these watercourses are significant characteristic features within the canyons. Even though the watercourses in several cases are not highly visible, they are perceived to be there; they are a perceived signature characteristic of the canyon bottom environment. By routing them to the perimeter of the canyon bottom and keeping them on the surface and visible they will remain a characteristic of the canyon rather than disappearing into a pipe.

Third, in order to enhance the whole canyon bottom perception and enhance the watercourse characteristic specifically, the Southeast Area Plan proposes that this perimeter watercourse become the backbone of a perimeter parkway/open space as detailed in the PERFUMAA discussion, above. This characteristic watercourse feature this asset should be enhanced by landscaping consistent with the rural character of the area. This landscape area could and should in time contain appropriate trails and paths. The landscaping should include the planting of significant trees which will grow to have strong vertical character. This will not only enhance the watercourse perception it will also give definition and character to the "developable area" therein. An excellent tree choice would appear to be Live Oak since it is native, is drought resistant, and is fire resistant. Other choices might be sycamore, willow, and acacia and should vary from Planning Sector to Planning Sector to enhance neighborhood identify.

Fourth, the Southeast Area Plan proposes that the canyon bottom areas be recontoured to allow for surface runoff to these realigned perimeter watercourses to handle the local drainage needs.

In summary, the drainage proposal is for a natural-like, gravity flow, surface drainage system, with a perimeter collector system in each canyon which in turn flows by gravity to the mouth of the canyon and out to either San Timoteo or Live Oak creeks.

7. Utilities

The following utilities issues are addressed in the Southeast Area Plan:

Sewer
Water
Power
Other Utilities

These issues are addressed in the following sections:

Sewer: Because City sewer service is not projected to serve this area in the near future, septic systems will be allowed according to City Municipal Code §13.44.080. That code requires installation of dry sewer systems in addition to septic systems to facilitate eventual hook-up to a city sewer system. Each development proposal shall address the optimum means of managing wastewater by providing sufficient information to the City and Water Quality Control Board to assess the viability of proposed solutions.

Water: The Southeast Area Plan proposes that as a condition precedent to occupancy of any given development area there be in existence and operational a water delivery system with sufficient fire flow storage and capacity. The land use pattern proposed related to the topography creates the opportunity to build a gravity flow system, since the majority of the development is proposed "down watershed." It would seem that this system should be master planned to reduce its overall cost and to address issues of phasing. There are two water supply tanks in the area, both located atop signature ridges in very visible locations. This ridgeline siting is economical, but very disruptive to the "historic perception" of the ridgeline in question. Future planning consistent with the

preservation concepts contained in this study should preclude such disruptive sitings in the future.

Power: .The Southeast Area Plan does not address the location of power lines specifically. However, adherence to the Plan's design policies will direct power lines away from signature ridgelines. The Southeast Area Plan does not call for underground utilities necessarily, even though same may be very appropriate in certain situations. This issue should be reviewed as specific plans are developed,

Other Utilities: As specific plans of development for the area are developed, additional utility type issues will emerge. In all cases the plan concepts should be applied to ensure the ultimate result is the preservation of the identified signature characteristics impacted.

Guiding Policies: Southeast Area - The following are the Guiding Policies for the Southeast Area. Additional policies specific to this area are contained in the Circulation Element of this General Plan.

4.42a A Specific Plan shall be developed for each of the designated Planning Sectors consistent with the Policies contained in this section of the General Plan as the means of implementing this General Plan. A specific plan shall <u>not</u> be a prerequisite for the approval of any residential development project consisting of four (4) dwelling units or less within Planning Sector 2.

4.42b The perception of the signature features of the area shall be preserved, maintained, and, where possible, enhanced.

4.42c The canyon walls immediately below the signature ridges and the vegetation thereon shall be preserved and enhanced where appropriate. Canyon walls associated with the signature ridges wherein a predominance of the slopes are in excess of 50% shall be preserved intact.

4.42d Both signature ridges and major ridges within canyons shall be preserved and enhanced. Significant modification of these ridges shall occur only where offsetting need is demonstrated. Development on ridgelines is allowed as long as it stays within the parameters of this policy. Offsetting need is defined as a demonstration that the grade of a specific parcel requires modification of an existing ridge line to produce sufficient space to site a building pad and that the result will not eliminate the continuity of the ridge line through grading or construction of structures.

4.42e Ridges not identified as major ridges within a canyon may be modified to facilitate development within the canyon so long as their collective perception as canyon wall buttresses remains intact.

4.42f The narrow side canyon bottoms within the lower portions of the major canyons and particularly those around the edges of the major bottoms may be modified to accommodate proposed development consistent with the development criteria in this section of the Land Use Element.

4.42g The steep ridge and canyon system between Planning Sectors 1 & 2 shall be maintained intact and enhanced as appropriate.

4.42h The City of Redlands shall actively promote the development of the Live Oak Canyon area in a manner consistent with this section of the Land Use Element.

4.42i Live Oak Canyon shall be the subject of a specific study to establish a unified improvement plan to ensure that it will function as a scenic highway and provide a suitable "front door" for the adjacent canyon communities.

4.42j The City of Redlands shall work to ensure that if San Timoteo Canyon Road is realigned and upgraded it shall:

1) Maintain and expand its alignment adjacent to the existing rail line; and
2) Be routed to provide ready access to the I-10 Freeway

4.42k The San Timoteo Creek watercourse shall be preserved and enhanced as the backbone of a linear parkway/activity corridor extending throughout the canyon.

4.42l Special attention shall be given to the sliver of land located between the San Timoteo Canyon watercourse and the rail line to ensure the lineal parkway/activity/corridor character of this area is maintained.

4.42m Density within the Southeast Area Plan shall be as follows:

Slope	Acres/Dwelling Unit
0 to 15%	1.0 acre
>15 to 30%	2.5 acre
>30%	10.0 to 5.0 acres

Exhibit "A" , Statistical Summary, (shown below and on the following pages) presents the results of the application of these densities. These results are expressed in terms of the most commonly considered impacts resultant therefrom, acres involved, number of dwelling units, population, numbers of school age children, automobile trips per day and peak hour automobile trips.

EXHIBIT A: SOUTHEAST AREA PLAN
STATISTICAL SUMMARY

Planning Sector	Slope	Density	Acres	D.U.'s	Pop. @ 3.00	K-6	Junior High	Senior High	Total	ADT	Peak Hour Trips
1	0 to 15%	1.0	83	83	250	28	14	14	56	833	83
	>15 to 30%	2.5	25	10	30	3	2	2	7	99	10
	>30%										
	Min. [2]	10.0	234	23	70	8	4	4	16	234	23
	Max. [3]	5.0	234	47	140	16	8	8	31	467	47
	s.t. (Min.)		342	117	350	39	19	19	78	1,166	117
2	0 to 15%	1.0	52	52	157	17	9	9	35	525	52
	>15 to 30%	2.5	16	6	19	2	1	1	4	62	6
	>30%										
	Min. [2]	10.0	147	15	44	5	2	2	10	147	15
	Max. [3]	5.0	147	29	88	10	5	5	20	294	29
	s.t.		215	73	220	24	12	12	49	734	73
3	0 to 15%	1.0	116	116	348	39	19	19	77	1,161	116
	>15 to 30%	2.5	41	17	50	6	3	3	11	166	17
	>30%										
	Min. [2]	10.0	333	33	100	11	6	6	22	333	33
	Max. [3]	5.0	333	67	200	22	11	11	44	665	67

Planning Sector	Slope	Density	Acres	D.U.'s	Pop. @ 3.00	K-6	Junior High	Senior High	Total	ADT	Peak Hour Trips
	s.t.		490	166	498	55	28	28	111	1,659	166
4	0 to 15%	1.0	15	15	45	5	3	3	10	151	15
	>15 to 30%	2.5	2	1	2	0	0	0	1	8	1
	>30%										
	Min. [2]	10.0	40	4	12	1	1	1	3	40	4
	s.t.		57	20	59	7	3	3	13	198	20
5	0 to 15%	1.0	18	18	53	6	3	3	12	176	18
	>15 to 30%	2.5	2	1	3	0	0	0	1	9	1
	over 30%										
	Min. [2]	10.0	89	9	27	3	1	1	6	89	9
	Max. [3]	5.0	89	18	53	6	3	3	12	177	18
	s.t.		109	27	82	9	5	5	18	274	27
6	0 to 15%	1.0	71	71	212	24	12	12	47	708	71
	16 to 30 %	2.5	16	6	19	2	1	1	4	65	6
	>30%										
	Min. [2]	10.0	289	29	87	10	5	5	19	289	29
	Max. [3]	5.0	289	58	174	19	10	10	39	579	58
	s.t.		376	106	319	35	18	18	71	1,062	106
7	0 to 15 %	1.0	12	12	37	4	2	2	8	124	12
	>15 to 30%	2.5	2	1	2	0	0	0	0	6	1
	>30%										
	Min. [2]	10.0	60	6	18	2	1	1	4	60	6
	Max. [3]	5.0	60	12	36	4	2	2	8	119	12
	s.t.		74	19	57	6	3	3	13	190	19
8	0 to 15%	1.0	36	36	107	12	6	6	24	358	36
	>15 to 30%	2.5	31	12	37	4	2	2	8	125	12
	>30%										
	Min. [2]	10.0	120	12	36	4	2	2	8	120	12
	Max. [3]	5.0	120	24	72	8	4	4	16	240	24
	s.t.		187	60	181	20	10	10	40	603	60
9	0 to 15%	1.0	65	65	195	22	11	11	43	649	65
	>15 to 30%	2.5	8	3	10	1	1	1	2	32	3
	>30%										
	Min. [2]	10.0	108	11	32	4	2	2	7	108	11

Planning Sector	Slope	Density	Acres	D.U.'s	Pop. @ 3.00	K-6	Junior High	Senior High	Total	ADT	Peak Hour Trips
	Max. [3]	5.0	108	22	65	7	4	4	14	216	22
	s.t.		181	79	237	26	13	13	53	789	79
10	0 to 15%	1.0	23	23	70	8	4	4	16	234	23
	>15 to 30%	2.5	2	1	3	0	0	0	1	9	1
	>30%										
	Min.[2]	10.0	0	0	0	0	0	0	0	0	0
	Max. [3]	5.0	0	0	0	0	0	0	0	1	0
	s.t.		26	24	73	8	4	4	16	244	24
11	0 to 15%	1.0	128	128	384	43	22	22	87	1,280	128
	>15 to 30%	2.5	17	7	20	2	1	1	4	67	7
	>30%										
	Min. [2]	10.0	4	0	1	0	0	0	0	4	0
	Max. [3]	5.0	4	1	2	0	0	0	1	8	1
	s.t.		149	135	405	45	23	23	91	1,351	135
12	(Included within Planning Sectors 4, 5, 6, 7, 8, and 9)										
TOTAL:			2,205	827	2,481	276	138	138	552	8,271	827

Footnotes:

[1]. Density is expressed as Acres Required / Dwelling Unit.
[2]. Minimum is the Density permitted without a special showing.
[3]. Maximum is the maximum Density permitted with a special showing.
D.U. = Dwelling Unit
s.t. = Subtotal

Definitions:

Population/household is assumed to be 3.00 persons per household.
School system is assumed to be 6-3-3.
Average Daily Trips per household (ADT) is assumed to be 10.0.
Peak Hour Trips are assumed to be 10% of ADT.

4.42n Development within an area having an average slope of less than 30% or with a proposed density of 1 unit per 10 acres or greater, which abuts an area of significant natural vegetation shall be separated from same by a fuel modification zone which contains an all weather access roadway and a water supply system having fire flow capacity.

4.42o Flood control and drainage facilities within the Southeast Area shall be designed in such a manner as to preserve the perception of natural watercourses flowing down the on-site canyons and into Live Oak and San Timoteo canyons.

4.42p The City shall determine whether the City's historic agricultural uses are to be preserved and, if so, shall designate specific sites for preservation.

4.42q The perceived character of the vegetation and wildlife within the Southeast Area shall be preserved and enhanced as appropriate.

4.42r Access into the Planning Sectors shall be provided in accordance with the following requirements:

Primary access into each of the Planning Sectors shall follow the primary historic route pattern for that sector.

For Planning Sectors 1, 3, 4, 5, 6, 7, 8, and 9 this shall be up-canyon from Alessandro, San Timoteo Canyon and Live Oak Canyon, as applicable. For Planning Sector 2 this shall be down-ridge from Sunset Drive.

If secondary access is required for safety reasons, such secondary access shall be limited to other identifiable historic routes accessing each individual sector and shall not be inconsistent with the perceived historic pattern.

4.42s Internal access within the area, including roads, trails and paths, shall be routed so as to preserve and enhance the perception of the historic access patterns by generally conforming to the natural contours.

4.42t All utilities and public facilities in the Southeast Area shall be designed and constructed to preserve and enhance the perceived natural and historic character of this area.

4.42u Each Planning Sector within the Southeast Area has a series of signature characteristics, the perception of which shall be preserved. The planning for each Planning Sector shall include special consideration of the individual character of that Sector and shall include criteria to preserve and enhance the characteristics identified. Each Planning Sector shall be planned so as to result in an identifiable neighborhood within the community at large.

4.42v A Specific Plan Study of Planning Sectors 1 and 2 shall be undertaken to establish the location for and resolution of:

The widening and alignment of San Timoteo Canyon Road.
The alignment and widening or relocation of the Alessandro bridge.

4.42w The Perimeter Fuel Modification/Access Area (PERFUMAA) concept shall be adopted and implemented within each of the Planning Sectors identified in the Southeast Area Plan. The Fire Chief may grant modifications from this concept if effective alternatives are provided.

4.42x No development within the Southeast Area Plan shall be permitted to be occupied until such time as all the fire safety measures required by the City are in place and operational.

4.42y The historic character of Live Oak Canyon as a narrow fertile valley astride a gorged watercourse lined with significant trees should be preserved and enhanced. This character is important to the area and should be preserved by not only ensuring it does not disappear but by enhancing it so it can continue to be readily perceived.

4.42z The perception of San Timoteo Canyon as a transportation corridor within a fertile valley bordered by a major water course should be preserved and enhanced. These characteristics are important to the area and should be preserved by not only ensuring they do not disappear, but by enhancing them to they can be readily perceived among the development which occurs in the canyon.

4.42aa The City of Redlands shall take a strong position to advocate that the future development of Live Oak Canyon, both within San Bernardino County and Riverside County, be consistent with the historic character and role of this canyon.

4.42bb The City of Redlands shall take a strong position to advocate that the future development of San Timoteo Canyon, both within San Bernardino County and Riverside County, be consistent with the historic character and role of this canyon.

4.50 Office Land Use

The Office Land Use category includes business and professional offices. This land use category is intended to encourage the concentration and high visibility of office uses and professional activities for the convenience of the general public and to minimize conflicts and adverse impacts on other land uses.

Offices employ an ever-increasing share of the workforce and have two to three times as many workers per acre as industrial or retail establishments. East Valley Corridor business parks will have strong appeal for region-serving offices. Downtown Redlands needs to capture a large share of local-serving offices -- lawyers, accountants, and other business and personal service providers -- and has capacity to add 400,000 square feet or more of office space. To reduce travel and support Downtown retailing, the General Plan Diagram allocates some additional space for expansion of local-serving offices outside Downtown.

Generally office land uses are located adjacent to and extending outward from the downtown business district. Cajon Street between Olive Avenue and Cypress Avenue and Brookside Avenue between Eureka and Center, has been retained as office to retain the existing historic homes through adaptive reuse of these structures.

Office land uses are located primarily along arterial and collector streets to avoid intrusion into residential areas. See Table 4.2 for FAR.

Guiding Policies: Offices

4.50a Encourage development of office space in Downtown Redlands and in the East Valley Corridor.

4.50b Minimize expansion of office space adjoining existing residential neighborhoods.

Implementing Policy: Offices

4.50c Set the maximum ratio of floor area to site area for offices outside Downtown and the East Valley Corridor at .4.

The Administrative and Professional Office District in the Zoning Ordinance does not limit height or floor area ratio.

4.50d Limit office occupancy in the vicinity of Redlands Community Hospital to health care related uses.

The purpose is to minimize impacts on the adjoining neighborhood.

4.51 Neighborhood Shopping

The General Plan recognizes the convenience of carefully controlled outlying shopping districts to provide the day to day goods and services required by people who live within a few minutes driving time from these centers. Standards must be very high since these areas are usually a part of a residential environment.

Neighborhood shopping districts are identified with an "N" on the General Plan diagram. Where a specific site location is not identified the General Plan diagram has a red circle with an "N".

Guiding Policies: Neighborhood Shopping

4.51a Maintain existing neighborhood shopping centers. Do not establish new centers in areas already served.

Duplicate existing facilities would be likely to cause slow decline for the less competitive center.

4.51b Preserve and encourage neighborhood stores that enable shoppers to walk or bike for everyday needs.

4.51c Design neighborhood shopping centers in a manner that will provide protection to adjacent residential areas.

4.51d Locate neighborhood shopping centers near the center of their respective trade area and at the intersection of major traffic arteries.

Implementing Policies: Neighborhood Shopping

4.51e Locate neighborhood convenience centers where they will not result in substantial increases in traffic on local streets serving the residential areas or create a nuisance due to hours of operation.

4.51f Neighborhood shopping centers shall remain relatively small and not expand into a major shopping center and thus disrupt the residential character of the neighborhood.

4.51g Neighborhood shopping centers shall be designed in a manner that will provide protection to adjacent residential areas.

4.51h Neighborhood shopping centers shall conform to special regulations for signage limiting their size, location, and general character so that they do not disrupt the residential character of the neighborhood.

4.60 General Commercial

An important consideration for new local businesses, expanding local firms, as well as industries moving into the area is the supply of land available.

Between 1994 and 2010 Redlands will change from a predominantly residential community that sends a majority of its employed residents to jobs elsewhere to an employment center with a daily influx of workers, mainly to the East Valley Corridor (EVC). With over 90,000 jobs at buildout (projected in 2028) and a site likely to attract San Bernardino County's largest regional shopping center east of Ontario, the East Valley Corridor Specific Plan will bring change on a scale Redlands has not experienced. EVC will reduce potential demand for retail, office, and industrial space elsewhere in the Planning Area, thereby neutralizing pressures that might otherwise change the appearance of the older city.

Future growth of commercial, retail and industrial developments will most likely occur in two areas - new development in presently vacant ground in the EVC area and as redevelopment in older, under utilized areas. This category includes most of downtown, the commercial strips, and the East Valley Corridor regional shopping center site. Uses include retail stores, hotels, motels, automobile sales and service, offices, and entertainment and cultural facilities. See Table 4.2 for FAR.

4.61 Downtown

The *Downtown Redlands Specific Plan*, (As amended February 7, 1995), makes specific proposals for the preservation and development of the downtown area between Redlands Blvd. and the I-10 Freeway. It calls for two- and three-story commercial, office and residential buildings in the Town Center District and service and industrial buildings in the Service Commercial District. The City's redevelopment activities in Downtown have helped attract $23 million in private investment in 13 development projects.

Guiding Policies: Downtown

The following policies are descriptive of and consistent with the Downtown Redlands Specific Plan:

4.61a Develop the Specific Plan Area (between Redlands Boulevard and I-10 Freeway) as an extension of Downtown Redlands, providing a high-quality pedestrian-oriented development character consistent with the rest of the Town Center.

4.61b Provide opportunities for the expansion and development of small businesses that provide local services.

4.61c Provide public improvements for traffic circulation, flood control, utility services and aesthetic amenities that will attract new private investment and economic development.

4.61d Preserve historic buildings and sites.

4.62 East Valley Corridor

The East Valley Corridor is the best, perhaps only, location capable of attracting the office, high-tech and distribution jobs the eastern portion of the San Bernardino Valley needs. Design standards and infrastructure planning and financing incorporated in the Specific Plan ensure a high-quality business park

environment. The EVC also includes the most suitable site for a new regional shopping center in the East Valley during the 20-year planning period (site bounded by Alabama Street, San Bernardino Avenue, I-30 Freeway, and Lugonia Avenue).

The East Valley Corridor (EVC) Specific Plan (adopted by the City of Redlands, 1989) is consistent with the General Plan as modified by policies in this section and Section 5, Circulation. The 4,000 acres of the Planning Area included in the Specific Plan are to be developed with commercial and industrial establishments totaling 37 million square feet of floor area and providing up to 90,000 jobs. The Plan will transform Redlands from a labor exporting to a labor importing community.

An issue is the ability to create a transportation system that will support this concentration of activity which the economists on the EVC planning team, viewing the project from the robust economy of the late 1980s, projected will require 40 years to reach full development.

The East Valley Corridor Specific Plan (EVCSP) is consistent with the land use map and land use element of the General Plan; however, the standards of development established by the general provisions, community design, overlay districts, and community facility sections of the EVCSP are covered in the Specific Plan and are not expressly part of the General Plan.

Guiding Policies: East Valley Corridor

4.62a Develop the *East Valley Corridor Specific Plan* so as to promote and facilitate high-quality commercial and industrial development within the Corridor area.

This is a goal stated in the Specific Plan document (EV2.0205).

4.62b Provide sufficient roadway and intersection capacities to maintain a minimum Level of Service (LOS) C except as provided in policy 5.20b where (LOS) D is allowed for up to one hour of the three daily peak periods.

LOS C is an objective of the Specific Plan (EV2.0220), but it was not attained, according to the EVC EIR. Traffic studies for the General Plan demonstrate that even LOS D would not be attained during peak hours within and adjoining the Specific Plan area at full development unless travel habits, intensity of development, or the circulation network changes. Consequently, Transportation Demand Management (TDM) Measures, revisions to the mix of uses, modification of the intensity of development, and/or additional circulation improvements will be necessary before buildout occurs.

4.62c Implement a Specific Plan that is responsive to physical and environmental constraints and opportunities.

4.62d The Specific Plan should provide for extension of public services in a logical and functional manner to minimize impacts on service purveyors while maximizing areas that can accommodate development in a timely manner.

4.62e Design a comprehensive, functional and efficient circulation system of sufficient capacity to accommodate projected traffic demands at all phases of development, which is consistent with regional master transportation plans.

4.62f Adopt energy-efficient transportation strategies to implement state and county goals for reduced energy consumption and improved air quality.

4.62g Promote high quality development in the East Valley Corridor by protecting and enhancing existing amenities in the area, creating an identifiable community character, and adopting development standards and guidelines to ensure aesthetically pleasing design and maximum land use compatibility.

4.62h Create parks and open space areas which will meet the community's recreation needs in a meaningful way, and create areas which will enhance and add value to the community as a whole.

Implementing Policies: East Valley Corridor

4.62i Process EVC development proposals in accord with the on-site use provisions and site design standards and guidelines in the Specific Plan except where development at less intensity may be required to comply with Policies 4.62j and 5.20f.

4.62j Monitor traffic Level of Service at key intersections in and near the EVC as specified in Policy 5.20f and implement mitigation measures if required by the policy.

4.62k Consider modification of the mix of land uses to include providing for PUD's and additional medium density residential land uses in the EVC.

See policy 4.40l.

4.62l Maximize generation of employment opportunities in a region which has a significant imbalance of housing versus employment opportunities.

4.62m Facilitate location in the project area of a wide range of commercial uses to serve the region, local industry, and residential neighborhoods.

4.62n Support a limited amount of residential land use within the planning area.

4.62o Preserve existing viable agricultural activities in the East Valley Corridor as long as feasible while the area transitions to more intensive uses.

4.62p Identify natural hazards within the planning area and adopt development standards to mitigate these hazards.

4.62q Develop a comprehensive storm drain system adequately sized and designed to accommodate storm flows from all present and future development within the Plan area.

4.62r Identify natural resources within the planning area and adopt strategies to protect and preserve these resources.

4.62s Complement the land use planning for the East Valley Corridor with comprehensive plans and programs for utilities and public facilities.

4.62t Develop financing techniques to provide for extension of infrastructure facilities in the project area.

4.62u Develop opportunities for community oriented services within the Plan area.

4.62v Provide safe and convenient access and circulation to all development within the East Valley Corridor.

4.62w Design a system of major arterials to accommodate traffic volume associated with projected land uses and densities throughout the Plan area.

4.62x Protect the designed capacity of all arterials in the Plan area.

4.62y Design a circulation system consistent with regional transportation planning for the East Valley area.

4.62z Designate land uses so as to reduce the number and length of vehicle trips in the East Valley Corridor.

4.62aa Provide opportunities for alternative travel modes to supplement the private automobile.

4.62bb Establish development standards to implement Specific Plan goals and policies.

4.62cc Establish design themes to unify the Corridor area and provide a recognizable community character within the area.

4.62dd Create a visually aesthetic appearance for the East Valley Corridor from the freeways as well as from the planning area.

4.62ee Encourage effective use of landscaping within the East Valley Corridor.

4.62ff Ensure compatibility between adjacent land use types within the Corridor area.

4.62gg Enhance the beauty of the East Valley Corridor and the overall quality of life for users and residents of the area.

4.62hh Plan for the development of additional recreational facilities within the Plan area.

4.63 Commercial Strips

Commercial strip development is characterized by small, single lot/single use developments in a more or less continuous alignment along a roadway frontage.

A remarkably small share of Redlands' arterial frontage is in commercial use. Given the abundance of retail and office sites provided by the East Valley Corridor (EVC) Specific Plan, there is no need to extend existing commercial strips. To do so would make the City less attractive; key arterials would become more congested, and existing and planned business districts would be weakened.

There are four commercial strips in the Planning Area:

Redlands Boulevard west of Texas Street. This is the City's only strip comparable to those that dominate the driver's view in so much of urban California. No other use could be expected along the former transcontinental highway. Many of the City's strongest sales tax generators, including auto dealers, Wal-Mart and K Mart, are located here. Trees and greenery are needed and there is room for planting in medians and potentially in former railroad right-of-way.

Colton Avenue west of Orange Street. Between Orange and Texas Street, the Downtown *Master Action Plan* calls for changes in development standards to prevent further commercial strip development and make new development compatible with older homes. At Alabama Street is Tri-City Center, Redlands' largest shopping center.

Orange Street between Colton Avenue and Brockton Street. The small lots fronting Orange Street have attracted scattered commercial use. The street is characterized by a combination of mixed uses, older structures, and street improvements that sporadically change from 2 to 4 lane widths. This strip area does provide services to residents in the area.

Mentone Boulevard between Wabash Avenue and Crafton Avenue. This strip serves the same function as Redlands Boulevard and has plenty of room for infill as its market area grows.

Guiding Policy: Commercial Strips

4.63a Improve the appearance of commercial strips.

4.63b Improve the accessibility, traffic flow, and parking availability within commercial strips.

Implementing Policies: Commercial Strips

4.63c Limit the extent of office or retail use along commercial strips to the length of frontage already identified as Commercial and/or Office.

4.63d Limit the number of access points on the major roadways from private property and encourage joint access points from adjoining commercial uses.

4.63e Rely on strong landscape treatments, setbacks, sign controls, and where feasible underground utilities and install street improvements to prevent visual chaos where businesses are competing for attention.

4.63f Where feasible, preserve housing on arterial streets.

Demolition or conversion removes affordable housing, exacerbates traffic friction, and often eliminates a prominent architectural resource.

4.64 Remote Commercial Recreation Facilities

It is the City's intent to recognize legitimate remote commercial recreational facilities. Examples would include commercial ventures such as riding stables, recreational vehicle parks, campgrounds, health resorts and similar facilities which operate within a rural setting. Areas likely to accommodate such uses include Reche Canyon, San Timoteo Canyon, and the outlying portions of the Crafton-Mentone area.

Guiding Policy: Remote Commercial Recreation Facilities

4.64a Consider outlying existing and proposed commercial recreation enterprises operating in accord with permits issued by San Bernardino County or the City of Redlands to be consistent with the General Plan.

Implementing Policy: Remote Commercial Recreational Facilities

4.64b Prepare zoning ordinance text changes to allow for remote commercial recreational facilities.

4.70 Commercial/Industrial Areas

The Commercial/Industrial Land Use category provides for areas suitable for a mixture of commercial and light industrial uses including manufacturing. Uses permitted in this category range from shopping centers to business parks to soap and chemical fertilizer manufacturing. The 1972 General Plan classification was "urban services"; the EVC Specific Plan uses "Special Development" or "Commercial Industrial." The intent is to minimize use regulation where there is no compelling reason to segregate uses as long as development and performance standards are adequate. Development standards vary according to location. See Table 4.2 for FAR.

Guiding Policy: Commercial/Industrial Areas

4.70a Provide commercial/industrial sites appropriate for the wide range of uses encompassed by the category.

Implementing Policies: Commercial/Industrial Areas

4.70b In the East Valley Corridor north of I-10 require Planned Development projects consistent with the Special Development District of the EVC Specific Plan.

Although most standards will be set by the Planned Development approval, EVC standards require a minimum of 15 to 20 percent landscaped area and other design standards characteristic of business parks.

4.70c In the East Valley Corridor south of I-10 apply EVC Commercial Industrial District regulations.

EVC architectural and landscape standards apply and minimum lot area is 20,000 square feet.

4.70d Maintain a range of standards for Commercial/Industrial development outside the EVC to provide for economically viable commercial/industrial opportunities.

Ten-foot front yards, 5,000 square-foot lots, and limited landscaping within parking areas provide a satisfactory urban industrial environment while minimizing start-up costs for new businesses and allowing more businesses to own their facilities.

4.80 Industrial Areas

This category encompasses all manufacturing and distribution industries operating in the Planning Area except aggregate mining and processing and concrete batch plants which are heavy industries located in a portion of the Santa Ana Wash designed for conservation of construction aggregates. See Table 4.2 for FAR.

Most new industries locating in the Planning Area will be in the East Valley Corridor, however three other important industrial areas are already in existence which contain nearly all of Redlands' existing manufacturing enterprises. These are generally located in the vicinity of West Redlands, Redlands Airport, and Mentone and have been identified on the General Plan diagram. The Redlands Airport industrial area is about one-quarter occupied, while the others are three-quarters occupied.

Guiding Policies: Industrial Areas

4.80a Provide space for expansion of existing industries and protect them from encroachment by inharmonious uses, but encourage most new industries to locate in the East Valley Corridor where impacts on residential areas will be minimized.

4.80b Reserve space adjoining Redlands Airport to allow for maximum development of airport-related industry.

Implementing Policy: Industrial Areas

4.80c Maintain standards for industrial development and operation that prohibit creation of noise, odor, or other harmful emissions beyond the boundaries of the site.

Current (1995) City zoning regulations require the same high performance standards in all industrial districts. This is appropriate because industries in West Redlands and Mentone are in close proximity to residential areas.

4.80d Encourage private development of well designed industrial park subdivisions which meet high standards of improvement.

4.90 Public/Institutional Areas

Educational, Cultural and Community Facilities

The section on Community Facilities is intended to provide policies for public services, buildings and related facilities. Included in this section are facilities not included elsewhere, public schools, the University of Redlands, and the civic center. While these areas provide for educational, cultural, and community facilities, it should be noted that residential uses at a density of up to 15 dwelling units per gross acre and agricultural uses are also allowed under this land use category.

4.91 Redlands Unified School District

Planning for the location of public schools is an important function of the General Plan. The need for new schools is closely related to community growth guided by The General Plan.

The General Plan serves as a bridge between long range development opportunities and resulting future school needs. It is the intent of the General Plan to assist the School District by providing a comprehensive long range projection of land use and circulation, including existing and proposed schools.

The District serves a 147-square-mile area including the 52-square-mile Redlands Planning Area, much of Loma Linda and Highland, and small portions of San Bernardino and Yucaipa. Nine of its 14 elementary schools (grades K-6) and all of its middle and senior high school facilities are in the Redlands Planning Area. A five-year Master Plan prepared in 1990 includes projections of enrollment and facilities needs as required for participation in the State School Building Program. To determine probable school site needs at buildout of the Redlands Planning Area, the General Plan assumes the 1994 ratio of students per household. Schools serving grades 7-12 are assumed to be within the Planning Area and growth outside the Planning Area is assumed to occur at the same rate as within. The 1994-95 year-round school program is assumed to continue. MEA Section 15.4 and EIR Section 16.4 provide details.

A new high school in the eastern portion of the city is presently under construction and an elementary school on Judson Street south of San Bernardino Avenue is in the planning stages and awaiting funding (1995). The General Plan Diagram designates general locations for the high school and two more elementary

schools (Greenspot and San Timoteo Canyon). Under current RUSD policy, the two comprehensive high schools and a continuation alternative high school would house grades 9-12 and the three middle schools would serve grades 7-8.

Guiding Policies: Redlands Unified School District

4.91a Maintain a continuous exchange of information on school needs and candidate sites between the City and the School District.

4.91b Plan for adjoining school/park sites where both facilities are needed to serve the same area and space is available.

4.91c Locate and design schools as contributors to neighborhood identity and pride.

4.91d Schools should be located in a pleasing environment, free from noise, smoke, dust and traffic.

4.91e Joint use of school facilities for neighborhood recreation should be encouraged.

Implementing Policies: Redlands Unified School District

4.91f Consult with Redlands Unified School District when development is proposed in the vicinity of a potential additional school site designated on the General Plan.

4.92 University of Redlands

The University's solid academic stature and high quality of its campus are important contributors to the City's image. A Master Plan completed in 1991 is designed for expansion from the present 1,200 students to 2,000 students during the next 20 years. On-campus housing for 1,800 students would be provided. No expansion in land area of the 130-acre campus is contemplated. Gateways to announce entry on City streets and pedestrian-dominated lanes to knit the campus together are part of the Master Plan.

Guiding Policies: University of Redlands

4.92a Support activities that enrich the cultural life of both the City and the University.

4.92b Encourage development of the campus in ways that both strengthen its ties to the community and enhance its status as a major visual focal point.

Implementing Policies: University of Redlands

4.92c Work with the University to create needed hotel/conference facilities in Redlands.

The University would be a major generator of business for a downtown hotel or non-University business could help support an on-campus conference center.

4.92d Create a bike path and promenade between the University and Downtown.

4.93 Civic Center

The Civic Center represents the nucleus of the City to its residents. The overall design and function of the Civic Center creates a reservoir of community pride and identification. The Civic Center represents the City's values, aspirations, historical traditions, and associations. The General Plan proposes a Civic Center area that is closely associated with the downtown area, yet is distinctly identifiable as the center of cultural and government facilities.

The Smiley Library, the Redlands Bowl, City Hall, Joslyn Senior Center and the park wedges and Victorian houses that provide their setting are the heart of Redlands, the place that says without shouting that this is the Navel Orange Capitol of the World and the ideal Southern California city.

Most of the land, whether in civic use or not, was bought by the City with the intent of expanding the Civic Center.

Guiding Policy: Civic Center

4.93a Preserve and enhance the Civic Center as the economic, cultural and historical focal point of Redlands.

Implementing Policy: Civic Center

4.93b Prepare a long-range plan for the Civic Center that specifies the activities and facilities to be located in the Civic Center, their space needs and schematic architectural configuration.

4.94 Other Public Facilities

Additional public facilities identified on the GP Figure 4.1, Proposed Redlands General Plan, include postal offices, landfills, fire station and school locations, the Redlands Municipal Airport, the City yard, water and sewer facilities. These public facilities are anticipated to serve the additional population projected at buildout.

4.95 Open Space

Open Space describes all land and water areas, regardless of ownership, which are left open or undeveloped as an element in the planning and design process. The benefits of preserving some of the undeveloped land which remains include: the preservation of a visually pleasant landscape, ecological/environmental protection, the enhancement of community values, and the ability to guide urban form by utilizing open spaces to buffer incompatible land uses and maintain future land use options. The need to preserve open space and its benefits becomes more critical as city population increases and urban development expands to reach projected buildout.

Open Space land use designations include:

Parks, Golf Courses. This category includes both public and private facilities of park-like character.

Agriculture. Areas designated are planted in citrus or are suitable for citrus, avocados, kiwis, Christmas trees, and similar crops. Agriculture would be maintained by public ownership, by transfer of density/intensity within an ownership, or by exclusive agricultural zoning with or without provisions for transfer of development rights within a single project and dedication of a permanent agricultural easement.

Flood Control/Construction Aggregates Conservation/Habitat Preservation. Areas subject to 100-year flood after implementation of flood control measures in accord with policies in Section 8.40. Portions are designated for construction aggregates extraction, habitat preservation ,and groundwater recharge.

Resource Conservation. Areas exceeding 30 percent slope are encouraged to remain as open space in accord with Policy 8.50i. The delineation of Resource Conservation areas on the General Plan Diagram is schematic and is subject to revision based on more detailed information and mapping at larger scale. The maximum density for Resource Conservation areas with 40% slope or greater is 1 unit per 10 acres. Areas with 30-40% slope may have a maximum density up to .2 units per acre (i.e., 1 unit/5 acres) dependent upon the slope and soil conditions of the property.

General Plan policies and standards for Open Space are provided in Section 7, Open Space and Conservation Element.

5.0 CIRCULATION ELEMENT

REDLANDS GENERAL PLAN

5.0 CIRCULATION ELEMENT

5.10 Traffic

The Trafficway Network (GP Figure 5.1) and Roadway Widths (GP Figure 5.2) are designed to serve the future land use pattern and intensities of the General Plan. The Circulation Element also includes policies and programs to enhance the efficiency of the transportation system and to promote use of alternative modes. It recognizes that the automobile will continue to be the most frequently used mode of transportation in the foreseeable future, but it emphasizes transit, neighborhood quality, and bicycle/pedestrian safety.

State law requires that a Circulation Element include "the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals and other local public utilities and facilities, all correlated with the Land Use Element of the Plan" (Gov. Code, Sec. 65302[b]). Public utilities and facilities are addressed in the Health and Safety Element.

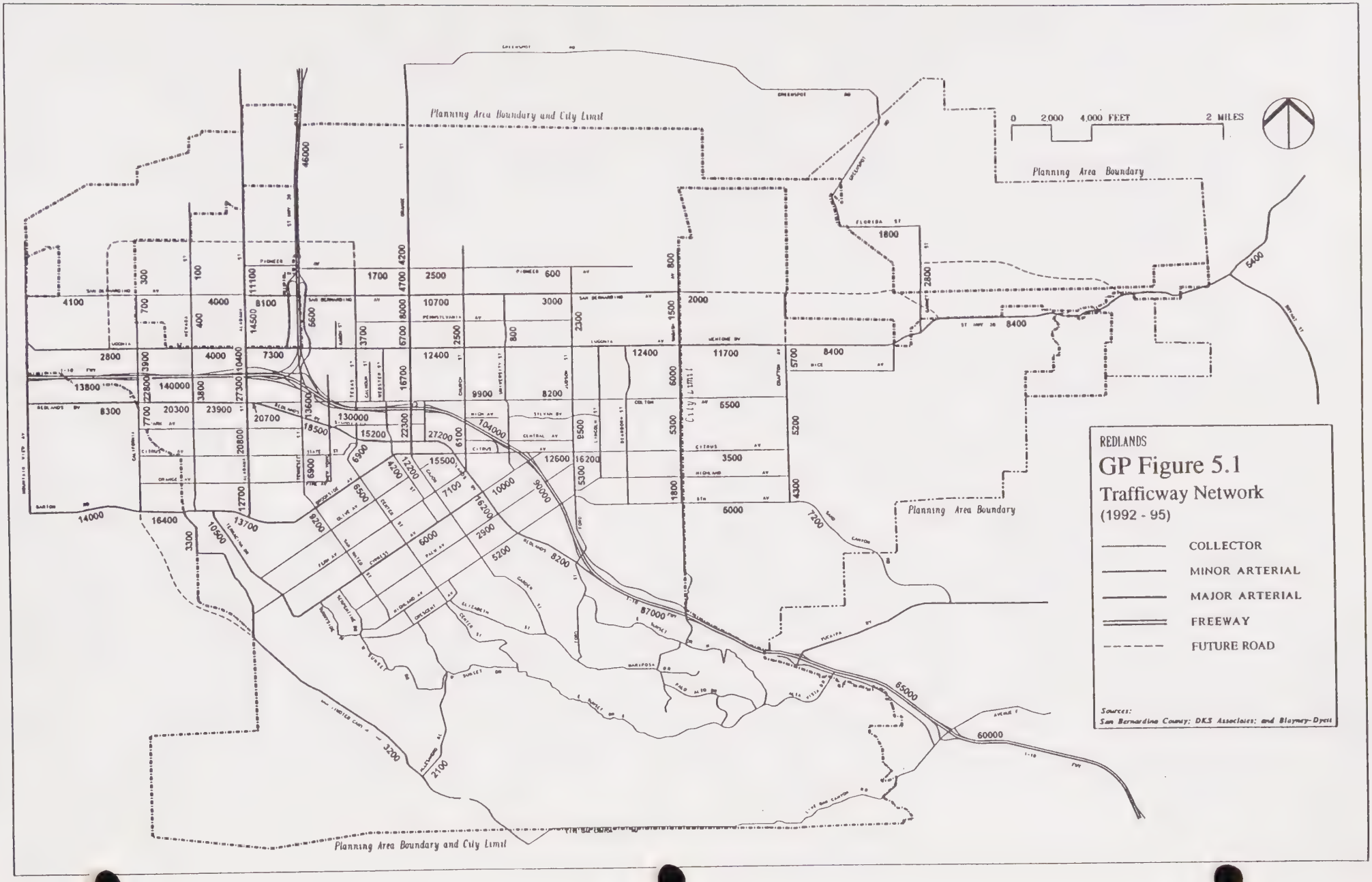
Generally, traffic conditions in Redlands are good in comparison to communities nearer the center of the Southern California metropolis. Residents can travel across town in ten minutes or less, and there are few locations (other than on Interstate 10 (I-10) freeway) where the traffic volume exceeds 15,000 vehicles per day. Isolated delays occur along some corridors where traffic converges (notably the Alabama Street/Redlands Boulevard intersection) and localized congestion can occur for short periods (typically 15 minutes or less) within the peak hour. However, traffic volumes on some residential streets are at or near the limits of acceptability from the residents' viewpoint.

To project future traffic demand, a computerized model of future traffic was prepared using trips generated from land use at buildout within the Planning Area (GP Figure 1.3). The model integrates these trips with trips to, from and through the Planning Area as projected by the Riverside-San Bernardino Area Comprehensive Transportation Plan Model (CTP Model) prepared by the Southern California Association of Governments (SCAG). For an explanation of the process see the Technical Report in the Master Environmental Assessment Appendix.

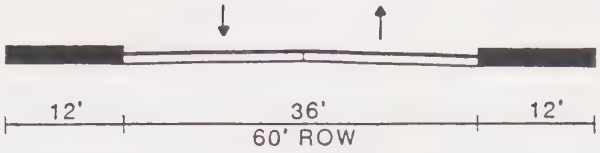
The major potential source of new traffic in the Redlands Planning Area would be the East Valley Corridor Specific Plan (EVCSP) where 90,000 jobs are expected to be created. Redlands is projected to be a significant "importer" of commuters and retail customers whereas today it is a net "exporter." The regional growth projections also assume substantial residential and job growth by 2010 from development in communities on each side of Redlands in San Bernardino and Riverside Counties.

A variety of transportation improvements are ongoing, programmed or planned to accommodate future growth, and these are incorporated into the Circulation Element. The new I-10/State Route 30 (SR 30) interchange ramps, help to keep regional traffic off City streets. Extensive roadway improvements are included in the *East Valley Corridor Specific Plan* and these are included in the Circulation Element. San Bernardino County is studying realignment of San Timoteo Canyon Road. Commuter rail service could be extended to Redlands sometime after 1995. The Caltrans Route Concept Report for Interstate 10 plans for a future requirement of 10 lanes west of SR 30 and 8 lanes to the east (with the added lanes potentially being HOV lanes).

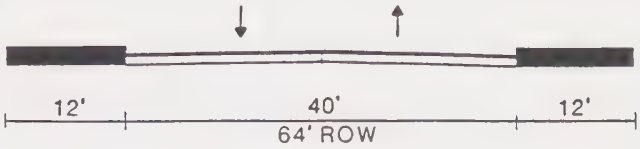
There are few opportunities for economically feasible and environmentally acceptable new routes in partially developed portions of the Planning Area, so the Plan focuses on expanding the capacity and efficiency of the existing circulation system. Traffic capacity is a potential limiting factor to land use intensity in the East Valley Corridor, because there is no space for new freeway interchanges and little potential for internalizing travel within the area.


REDLANDS
GP Figure 5.1
Trafficway Network
(1992 - 95)
COLLECTOR
MINOR ARTERIAL
MAJOR ARTERIAL
FREEWAY
FUTURE ROAD
Sources:
San Bernardino County; DKS Associates; and Blayney-Dyett
0 2,000 4,000 FEET 2 MILES
Planning Area Boundary and City Limit
Planning Area Boundary
City Limit

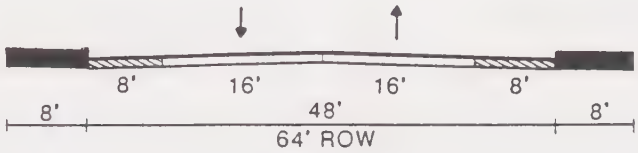
LOCAL



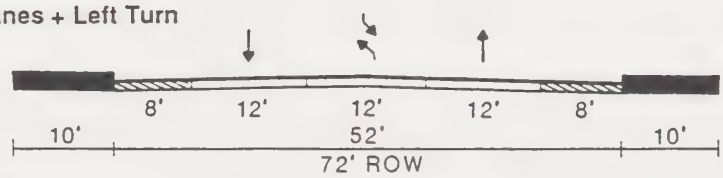
COLLECTOR - Residential



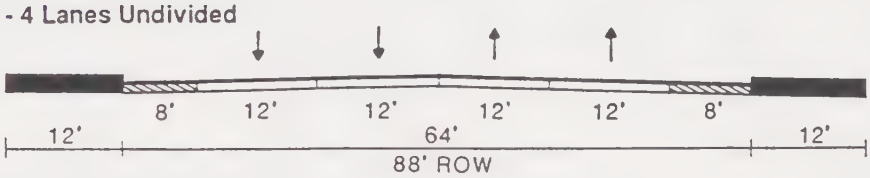
COLLECTOR - Industrial



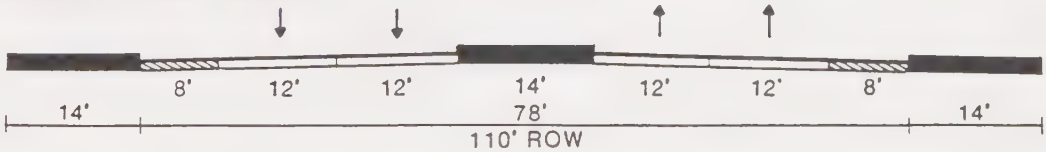
MINOR ARTERIAL - 2 Lanes + Left Turn



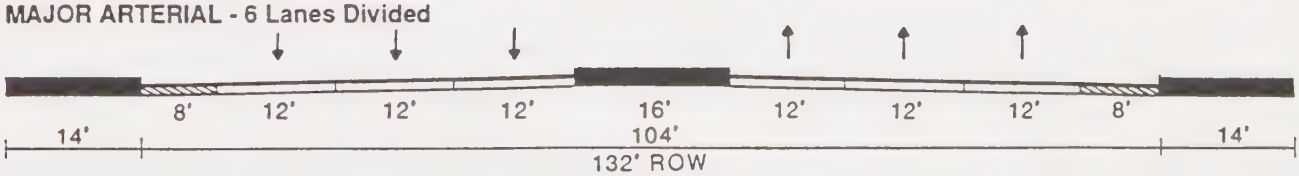
MINOR ARTERIAL - 4 Lanes Undivided



MAJOR ARTERIAL - 4 Lanes Divided



MAJOR ARTERIAL - 6 Lanes Divided



GP Figure 5.2
Roadway Widths

The Plan's circulation system has therefore been designed to:

- permit traffic to choose reasonably direct paths to destinations throughout the Planning Area
- minimize intrusion of through-traffic on local streets
- avoid over-reliance on the I-10 freeway for intracity travel
- provide efficient routes for transit service, emergency and other service vehicles.

The traffic projections upon which the Circulation Element is based assume continuation of current auto-oriented travel habits. However, even with the roadway improvements included in the Circulation Element, greater use of alternative modes such as transit, ridesharing and bicycling will be necessary to maintain acceptable peak period traffic service on routes such as Alabama Street, San Bernardino Avenue and Lugonia Avenue. Accordingly, the Circulation Element also contains policies and targets alternative modes to reduce peak period traffic.

5.20 Standards for Traffic Service

In a developed area the primary traffic issues are the feasibility of improvements and an acceptable level of service. Much of the General Plan design effort involved balancing land use and transportation by increasing traffic capacity and, where possible, limiting land use intensity to maintain acceptable levels of service. The definition of "acceptable," established by the City's standard for traffic level of service (Policies 5.20a, 5.20b, and 5.20c, below), allows a check on how well the Land Use and Circulation elements fit together.

Level of service (LOS) is a qualitative measure of traffic service along a roadway or at an intersection. As described in Table 5.1, it ranges from A to F, with LOS A being best and LOS F being worst. LOS A, B and C indicate conditions where traffic can move relatively freely. LOS D describes conditions where delay is more noticeable and average travel speeds are as low as 40 percent of the free flow speed. LOS E indicates significant delays and average travel speeds of one-third the free flow speed or lower; traffic volumes are generally at or close to capacity. Finally, LOS F characterizes flow at very slow speeds (stop-and-go), and large delays (over a minute) with queuing at signalized intersections; in effect, the traffic demand on the roadway exceeds the roadway's capacity.

Future levels of service for the Redlands circulation routes were determined by comparing projected roadway volumes to typical capacities. The resulting volume/capacity (V/C) ratio then establishes the LOS rating based on ranges given in Table 5.1. Although the traffic projections are for total daily traffic, the LOS estimates are for peak hours (typically a.m. and p.m. commute hours) since these dictate the need for roadway improvements. During other hours of the day higher levels of service would prevail.

Guiding Policies: Standards for Traffic Service

5.20a Strive to maintain LOS C or better as the standard at all intersections, with LOS D during no more than three hours of the day (a.m., p.m., and noon peaks).

5.20b Within the *East Valley Corridor Specific Plan* area strive to maintain LOS C or better; however, accept LOS D up to one hour of each daily peak period.

5.20c Strive to maintain LOS C within the City of Redlands; however, accept LOS D during peak periods where improvements to meet LOS C would be prohibitively costly or disruptive.

Table 5.1

Level of Service Definitions

		Freeway Segments	Street Segments
Level of Service A	Conditions of free flow; speed is controlled by driver's desires, speed limits, or physical roadway conditions.	0 to 0.30	0 to 0.60
Level of Service B	Conditions of stable flow; operating speeds beginning to be restricted; little or no restrictions on maneuverability from other vehicles.	0.31 to 0.49	0.61 to 0.70
Level of Service C	Conditions of stable flow; speeds and maneuverability more closely restricted; occasional backups behind left-turning vehicles at intersections.	0.50 to 0.71	0.71 to 0.80
Level of Service D	Conditions approach unstable flow;0.75 to 0.89 tolerable speeds can be maintained but temporary restrictions may cause extensive delays; little freedom to maneuver; comfort and convenience low; at intersection, some motorists, especially those making left turns, may wait through one or more signal changes.	0.72 to 0.88	0.81 to 0.90
Level of Service E	Conditions approach capacity; unstable flow with stoppages of momentary duration; maneuverability severely limited.	0.89 to 1.00	0.91 to 1.00
Level of Service F	Forced flow conditions; stoppages for long periods; low operating speeds.	>1.00	>1.00

Sources: Transportation Research Board, *Highway Capacity Manual*, 1994.
DKS Associates.

Implementing Policies: Standards for Traffic Service

5.20d Design roadway improvements and evaluate development proposals based on the LOS standard prescribed in Policies 5.20a, b, and c.

5.20e Monitor traffic service levels and implement Circulation Element improvements prior to deterioration in levels of service below the stated standard.

Development approvals should require demonstration that traffic improvements necessary to serve the development without violating the standard will be in place in time to accommodate trips generated by the project.

5.20f If monitoring of conditions at intersections within the *East Valley Corridor Specific Plan* area and intersections affected by EVC development indicates that peak hour LOS will drop below the standards set by Policies 5.20a, 5.20b, 5.20c revise the EVC Specific Plan. Revisions necessary may include additional roadway improvements, mandated higher TDM (Travel Demand Management, See Section 5.40) reductions in single-occupant vehicle trip share, reduction of intensity of development, or changes in use of undeveloped sites.

Projected buildout for the EVC is 2028 vs. 2010 for the rest of the Planning Area. Travel habits

may change significantly during this period, but project reviews for compliance with the General Plan must not assume changes that may be beyond the ability of the City to implement.

5.30 Circulation Network and Classification

Maintenance of the service level standards established in Section 5.20 will require a hierarchy of adequately sized streets. The Circulation Network in GP Figure 5.1 identifies the functional classification and size of key routes. The functional classification refers to the role played by a particular route. Function, as well as projected traffic level, determines the appropriate design and number of lanes for the route.

The Circulation Network is composed of five classifications:

- **Freeways.** Freeways are high speed, high capacity limited access facilities serving intercity and regional travel. In Redlands, both Interstate 10 and State Route 30 are freeways.

- **Arterials**. Arterials provide circulation between major activity centers and residential areas, and also provide access to freeways. They are further subdivided into two categories: major and minor arterials.

  Major arterials usually carry the highest volumes and/or longest trips and are moderately high speed routes, typically four to six lanes wide. For high capacity they should have medians between intersections and additional lanes at intersections. Service to abutting properties may be provided but should be subordinate to through-travel needs. Redlands Boulevard, Brookside Avenue, and Alabama Avenue are examples of major arterials that must permit access to abutting property. Access points should be consolidated where possible.

  Minor arterials typically interconnect with and augment the major arterial system, and serve trips of moderate length. Minor arterials may permit access to abutting properties, although traffic capacity needs are equally important. Minor arterials are typically no more than four lanes wide and, to minimize roadway width and right-of-way, may be undivided (no median). Lower volume minor arterials may be two lanes wide, although left-turn lanes at intersections and/or a continuous two-way left turn lane should be provided to improve traffic flow. Orange Street and Colton Avenue are examples of minor arterials.

- **Collectors.** Collectors have the important function of collecting traffic from residential and commercial areas and channeling it to arterials. They are typically fronted by residences, commercial or public activities. Collectors are usually two-lane streets, and maximum acceptable volumes are dictated by resident concerns about intrusion rather than traffic capacity considerations. The Circulation Network includes only existing or known future collectors. Examples are Pioneer Avenue, Dearborn Street, and Alessandro Road. Additional collectors should be provided as necessary in future development areas.

- **Local Streets**. Local streets have the sole function of providing access to adjoining land uses. All streets not depicted on the circulation plan are local streets.

- **Scenic Drives**. Scenic drive is the designation of the route along the Santa Ana Wash blufftop between Texas Street and Judson Street. When completed it will serve as a neighborhood connector as well as a recreational route for drivers and bike riders. In addition, the City Council has designated a number of streets within the City as scenic highways, drives, and historic streets. Special development standards have been adopted by Resolution for these streets. The streets are:

  - Brookside Avenue, from Lakeside Avenue to Eureka Street

- Olive Avenue, from Lakeside Avenue to Cajon Street
- Center Street, from Brookside Avenue to Crescent Avenue
- Highland Avenue, from Serpentine Drive to Cajon Street
- Sunset Drive, from Serpentine Drive to Edgemont Drive
- Cajon Street
- Mariposa Drive, between Halsey Street and Sunset Drive
- Dwight Street, between Pepper Street and Mariposa Drive

Guiding Policies: Circulation Network and Classification

5.30a Use the Circulation Network to identify, schedule and implement roadway improvements as development occurs in the future, and as a standard against which to evaluate future development and roadway improvement plans.

5.30b Review the Circulation Network with neighboring jurisdictions and seek agreement on actions needing coordination.

5.30c Review and coordinate circulation requirements with Caltrans as it pertains to the freeways and state highways.

Implementing Policies: Circulation Network and Classification

5.30d Adopt design standards for each functional roadway classification.

Roadway standards illustrated in the Technical Report in the Master Environmental Assessment Appendix are for typical midblock applications when constructing new roadways or improving existing roadways where sufficient right-of-way is available. Additional right-of-way may be needed for turn lanes at some intersection approaches. Exceptions to the standards should be kept to a minimum and should be evaluated on a case-by-case basis. Different standards may govern in Specific Plan areas.

5.30e Levy appropriate fees on new residential and non-residential development to be used for roadway improvements in compliance with the law.

5.30f Explore alternative means of financing for road improvements as long as in compliance with the law.

5.30g Coordinate with the City of Loma Linda and SANBAG to resolve the alignment of San Timoteo Canyon Road in the vicinity of Barton Road at the common boundary between Redlands and Loma Linda.

5.30h Coordinate with the City of Yucaipa to align the proposed Crafton Hills Drive between Wabash Avenue and Sand Canyon Road.

5.31 Arterials

Table 5.2 summarizes characteristics of the existing and proposed arterial system. Maintenance of acceptable levels of service will require major improvements. The note following the table specifies the assumptions that result in projected levels of service below LOS D on a quarter of the arterial segments.

Guiding Policies: Arterials

5.31a Provide adequate capacity on arterials to meet LOS standards and to avoid traffic diversion to local streets or freeways.

5.31b Locate high traffic-generating uses so that they have direct access or immediate secondary access to arterials.

5.31c Establish a funding system that will enable completion of arterial roadway improvements before the projects that require them are occupied.

Implementing Policies: Arterials

5.31d Maximize the carrying capacity of arterials by controlling the number of intersections and driveways, prohibiting residential access, and requiring sufficient on-site parking to meet the needs of the project.

Additional guidelines for arterial access include providing smooth ingress/egress to fronting development. This includes designing parking areas so that traffic does not stack up on the arterial roadway, combining driveways to serve small parcels, and maintaining adequate distance between driveways and intersections to permit efficient traffic merges. Implementation of these guidelines is especially important along Alabama Street and San Bernardino Avenue.

5.32 Collector and Local Streets

Collectors funnel traffic from local streets to the arterial network. Local streets are not indicated on the Circulation Network map (GP Figure 5.1) but are the subject of Plan policies. Standards for maximum traffic volumes are established for residential collectors and local streets because they normally have the capacity to carry far more traffic than is acceptable to people living along them.

Guiding Policies: Collector and Local Streets

5.32a Design residential collector streets and implement traffic control measures to keep traffic on collectors at 3,000 vehicles per day or less, where possible.

5.32b Design local residential streets and implement traffic control measures to keep traffic below 500 vehicles per day.

5.32c Discourage through-traffic on local streets.

5.32d Encourage special design standards for local streets in hillside and rural areas.

Table 5.2
Arterial System Volumes and Levels of Service

Location	Existing 1994 Lanes	Existing 1994 ADT	Existing 1994 LOS	Buildout Lanes	Buildout ADT	Buildout LOS
Palmetto						
California - Alabama	2	<1,000	A	4	19,000	A
San Bernardino Ave.						
Mtn View - Alabama	2	4,000	A	6	28-33,000	A-B
Alabama - Orange	2	8,000	A	6	40-51,000	C-E
Orange - Church	2	11,000	C	4	25,000	D
Church - Wabash	2	3,000	A	4	15-24,000	A-C
Wabash - Mill Creek	2	2,000	A	4	11-12,000	A
Lugonia Ave./Mentone Blvd.						
Mtn View - Alabama	2	3,000	A	4	22-30,000	B-D
Alabama - Orange	2	7,000	A	4	32-36,000	E
Orange - Wabash	4	12,000	A	4	13-22,000	A-C
Wabash - Garnet	4	8,000	A	4	10-19,000	A-B
Redlands Blvd.						
California - Alabama	4	20,000	A	6	34-39,000	B-C
Alabama - Colton	4	21,000	A	6	53,000	E
Colton - Texas	4	14-19,000	A	6	33,000	B
Texas - Citrus	4	13-27,000	A	4	28-30,000	C-D
Citrus - Highland	4	8-16,000	A	4	28-32,000	C-D
Highland - I-10 Fwy	4	8,000	A	4	22,000	B
Colton Ave.						
Redlands - Sixth	2	--	--	4	17-23,000	A-C
Sixth - University	2	10,000	B	2	10-12,000	B-D
University - Dearborn	2	8,000	A	2	9-11,000	B-C
Dearborn - Crafton	2	2-6,000	A	2	5-9,000	A
Barton/Brookside/Citrus						
California - Terracina	4	16,000	A	6	25-33,000	A-B
Terracina - Orange	4	14,000	A	4	18-27,000	A-C
Orange - Judson	4	13,000	A	4	16-24,000	A-C
Judson - Wabash	4	16,000	A	4	8-14,000	A
Wabash - Crafton	2	4,000	A	2	4-10,000	A-B
Cypress Ave.						
Terracina - Citrus	4	6-9,000	A	4	8-12,000	A
California St.						
Palmetto - Lugonia	2	<1,000	A	6	31-40,000	A-C
Lugonia - Redlands	2	4,000	A	6	33-58,000	B-F
Redlands - Barton	2	7,000	A	6	22-23,000	A
Nevada						
S. Bernardino - Lugonia	2	<1,000	A	4	18-22,000	B-C
Lugonia - Redlands	2	4,000	A	4	26,000	D
Redlands - Barton	2	1,000	A	4	11-18,000	A-B

Continued

Table 5.2 *(Continued)*

Location	Existing 1994 Lanes	Existing 1994 ADT	Existing 1994 LOS	Buildout Lanes	Buildout ADT	Buildout LOS
Alabama Street/Palm						
North of S. Bernardino	4	11,000	A	6	20-38,000	A-C
S. Bernardino - I-10 Fwy	4	10-15,000	A	6	45-58,000	D-F
1-10 Fwy - Redlands	4	27,000	D	6	47,000	D
Redlands - Barton	4	13-21,000	A-B	6	16-37,000	A-B
Tennessee/San Mateo						
Lugonia - Brookside	4	14,000	A	4	13-29,000	A-E
Brookside - Highland	4	9,000	A	4	11-20,000	A-B
Texas/Center						
Pioneer - Colton	2	4,000	A	4	20-28,000	B-E
Colton - Brookside	4	11,000	A	4	14-18,000	A
Brookside - Highland	2	--	--	2	10-13,000	C-E
Eureka Street						
Pearl - Citrus	2	4,000	A	4	10,000	A
Orange St./Cajon/Garden						
North of Pioneer	2	4,000	A	4	22,000	A
Pioneer - Lugonia	2	7,000	A	4	19-21,000	B-C
Lugonia - I-10 Fwy	4	17,000	B	4	25-27,000	D
I-10 Fwy - Citrus	4	22,000	C	4	21,000	B
Citrus - Highland	2	12,000	C	2	9-14,000	B-E
Highland - Elizabeth	2	--	--	2	9,000	B
Judson St./Ford St.						
Pioneer - Colton	2	2,000	A	2	5-8,000	A
Colton - I-10 Fwy	2	5,000	A	2	7-10,000	A-B
Wabash Ave.						
Pioneer - Lugonia	2	2,000	A	2	3-7,000	A
Lugonia - Citrus	2	6,000	A	2	7-9,000	A-B
Citrus - I-10 Fwy	2	2,000	A	2	7-13,000	A-D
Crafton						
San Bernardino - 5th	2	4-6,000	A	2	3-9,000	A
Sand Canyon						
East of Crafton	4	7,000	A	4	12,000	A
San Timoteo Canyon Road						
Brookside - Alessandro	2	3,000	A	2	11-18,000	B-C
Alessandro - Live Oaks	2	--	--	2	20,000	C

ADT = Average daily traffic volume; ranges indicate lowest and highest volumes in the segment.
LOS = Peak hour Level of Service; ranges indicate highest and lowest LOS in the segment.
Projected volumes assume buildout at General Plan density and intensity and continuation of present travel habits, and thus represent a "worst case" scenario. Where projected LOS is inconsistent with Policies 5.20a, b, or c, Policy 5.20f is designed to provide mitigation.

Implementing Policies: Collector and Local Streets

5.32e Avoid adding traffic to streets carrying volumes above the standards in Policies 5.20a, b, and c and consider traffic control measures where volumes exceed the standards and perceived nuisance is severe.

Traffic above the standards may cause residents to become concerned about noise, speeding, child safety and loss of privacy. Typically, residents will become concerned when traffic reaches 3,000 vehicles per day.

Project design should orient residential units away from collector and local streets that are at or near the traffic acceptability thresholds. Where needed, possible control measures include stop signs, signals, channelization and barriers.

5.32f Design short, discontinuous local streets to discourage use by through-traffic.

Implementation of proposed arterial and collector improvements will also reduce diversion to local streets.

5.32g Provide for a network of collectors in the northwest and northeast areas to minimize traffic levels on San Bernardino Avenue, Lugonia Avenue, Orange and Texas Streets.

Much of the developed area north of Lugonia Avenue lacks collectors within the original half mile square agricultural road grid.

5.32h Adopt design standards for hillside and rural areas.

5.33 Freeway Improvements

Although the Plan circulation system focuses on arterial and collector roadways, conditions on Interstate 10 and State Route 30 will affect and be affected by development in the Planning Area. Volumes projected for the I-10 freeway will exceed the capacity of the existing freeway, necessitating widening or major increases in the use of transit and other Travel Demand Management (TDM) techniques. (See Section 5.40.)

Guiding Policies: Freeway Improvements

5.33a Work with California Department of Transportation (Caltrans) to achieve timely construction of freeway and interchange improvements.

Implementing Policies: Freeway Improvements

5.33b Develop improvement plans for the SR 30 interchange at San Bernardino Avenue and for the I-10 freeway interchanges at Alabama Street, California Street and Mountain View Avenue to ensure adequate capacity to meet future needs associated with the *East Valley Corridor Specific Plan.*

Considerable traffic growth is projected at all freeway interchanges serving the East Valley Corridor. More detailed studies are necessary to determine the level and nature of possible interchange improvements needed.

5.33c Provide a SR 30 freeway crossing (no ramps) at Palmetto Avenue and widen I-10 crossings at Nevada Street to reduce overdependence on other freeway crossings such as San Bernardino Avenue, Alabama Street and California Street.

5.33d Seek funding for interchange improvements as needed to accommodate traffic growth in the East Valley Corridor.

Caltrans does not currently fund local interchange improvements to accommodate planned traffic growth. Alternative sources such as traffic impact fees must be considered. See also Policy 5.30e.

5.33e Seek funding for I-10/Wabash Avenue interchange improvements.

5.40 Travel Demand Management (TDM)

The term "Travel Demand Management" (TDM) refers to measures designed to reduce peak-period auto traffic. These include public transit, flexible working hours, carpooling and vanpooling, and incentives to increase the use of these alternatives. TDM has become increasingly important in maintaining acceptable levels of service on existing routes in the region.

In developing the network for the General Plan, transportation studies assumed that peak hour trip rates at major employment centers would be typical of current conditions. Based on this, LOS deficiencies were identified on freeway access routes into and out of the East Valley Corridor area at buildout. To achieve acceptable LOS, a 10 to 15 percent reduction in peak period trips would be needed relative to the number of trips that would be generated from the same building area without active promotion of trip reduction. Therefore, the TDM program is a necessary component of the Circulation Element. Current experience elsewhere indicates that peak period trip reduction exceeding 15 percent is not likely to be sustained over time. Because work trips are only a portion of peak period trips and small employers are less able to implement TDM measures, an overall reduction in peak period vehicle trips on the order of five percent is a realistic target.

Congestion Management Program

In accord with Proposition 111, passed in June 1990, the San Bernardino Associated Governments (SANBAG) adopted a countywide Congestion Management Program (CMP) on November 4, 1992. A key component of the CMP is a "trip reduction and travel demand" element to promote use of alternative modes and reduce peak period travel. Under provisions of the legislation, each local jurisdiction is required to adopt and implement a trip reduction and travel demand ordinance. These provisions are to be coordinated with the local air districts Southern California Air Quality Management District (SCAQMD) and San Bernardino County Air Pollution Control District (SBCAPCD). Table 5.3 lists some examples of travel demand strategies.

Transit

Redlands has four Omnitrans bus routes, but transit serves mainly persons who do not have access to a car and presently accounts for under one percent of overall travel in Redlands. When higher employment and residential densities are reached at full development, public transit should play a larger role in transportation in the area, particularly for commute trips that could be attracted to the East Valley Corridor and for trips by local residents to and from other employment centers in the region. Commuter rail service on the Santa Fe line has been extended from downtown Los Angeles as far east as San Bernardino; convenient feeder transit service from Redlands and park-and-ride facilities could make this attractive to some Redlands commuters. In the longer range (post-1995) commuter rail service may be extended from San Bernardino to Redlands, making the service more attractive for Redlands residents commuting to the west.

GP Table 5.3
Travel Demand Strategies

TDM ORDINANCE PROVISION OPTIONS	STRATEGIES WHICH EMPHASIZE AIR QUALITY	STRATEGIES WHICH HELP CONGESTION MANAGEMENT
Transportation Allowance Instead of Subsidized Parking	X	X
Ridesharing Ridesharing Transportation Allowance	X	X
Ridesharing Subsidy, Tax Credits or Fees for Solo Commuters	X	X
Ridesharing Parking Cost Subsidy	X	X
Ridematching	X	X
Guaranteed Ride Home	X	X
Flex-Time		X
Compressed Work Week	X	X
Telecommuting from Home	X	X
Telecommuting from Satellite Work Center	X	X
Transit Subsidies	X	X
Commuter Stores		
Marketing Programs	X	X
Expanded On-Site Amenities	X	X
Walking Showers and Lockers	X	X
Safe Walking Routes	X	X
Bicycling Showers and Lockers	X	X
Bicycling Information (Maps)	X	X
Regulate Medium & Large Employers	X	X

GP Table 5.3
TRAVEL DEMAND STRATEGIES

TDM ORDINANCE PROVISION OPTIONS	STRATEGIES WHICH EMPHASIZE AIR QUALITY	STRATEGIES WHICH HELP CONGESTION MANAGEMENT
Regulate Multi-Tenant Bldg Owners	X	X
Regulate Developers Require Mixed Use	X X	X X
Require Amenities that Reduce Need for Trips.	X	X
Design Guidelines for Transit, Vanpools, Walking, & Bicycling	X	X
Increase Residential Densities at Transit Stations		X
Fee Credits for Bldg Designs Which Promote TDM Measures	X	X
Fee Credits for Building Remote Park & Ride Facilities		X
Parking Preferential Parking for Ridesharers	X	X
Subsidized Parking for Ridesharers	X	X
Remote Park & Ride Lots with Amenities		X
Support Zoning Code Variances for Commercial Uses Within Park & Ride Facilities		X
Provide Bicycle Parking	X	X
Lower Development Sq/Ft Ratios and Maximum Limits		X

Source: San Bernardino County CMP, 11/4/92 (Table prepared by Commuter Transportation Services)

A coordinated system of regional as well as local transit routes appears necessary to maintain acceptable levels of service. Projections indicate the potential for traffic congestion in the I-10 and SR 30 corridors in the future, even with widening of portions of I-10 to 10 lanes and SR 30 to 6 lanes, as assumed for the General Plan analysis. This is a result of anticipated growth in all the communities within the corridor rather than just in the Planning Area.

Guiding Policies: TDM

5.40a Ensure that employers implement TDM programs to reduce peak period trip generation.

5.40b Cooperate with public agencies and other jurisdictions to promote local and regional public transit serving Redlands.

5.40c Support the Congestion Management Program for San Bernardino County.

Implementing Policies: TDM

5.40d In accordance with the CMP, develop and implement a comprehensive trip reduction and TDM ordinance for all employers in Redlands. The goal should be to reduce peak period trip generation by 15 percent from the vehicle trip generation currently observed at similar sites without a TDM program.

The TDM ordinance should incorporate a regular monitoring program to assess compliance and success. Future employment will be concentrated in the *East Valley Corridor Specific Plan* area, where congestion will make TDM most necessary and most effective.

5.40e Favor TDM measures that limit vehicle use over those that extend the commute hour.

Programs such as ridesharing and public transit reduce overall vehicle travel while flex time and staggered work hours simply shift traffic to less congested times of day.

5.40f Support local feeder bus service to and from current and future regional transit lines.

5.40g Preserve options for future transit use when designing improvements to roadways.

Currently, segments of Barton Road/Brookside Avenue, Cypress Street, Cajon Street, Fern Avenue, Orange Street, Lugonia Avenue, San Bernardino Avenue and Brockton Avenue are used by Omnitrans bus lines. Other streets, particularly in the East Valley Corridor, will be likely candidates for bus service as growth occurs.

5.40h Work with Omnitrans to plan for local bus routes that are better able to penetrate neighborhoods to improve service for potential riders. Designate local bus routes in Specific Plan areas.

5.40i Future commuter rail services are planned within the Santa Fe rail corridor, with stops at California Street, Orange Street and Mentone Blvd. Improvements to these streets should be planned for feeder transit services, and park-and-ride provisions should be made at these locations. Another logical stop would be at University Street to serve the campus at the University of Redlands. Other potential stops could be at Judson Street and at Crafton Avenue. Residents in these areas might use short, trip commuter rail to downtown Redlands, either to work or shop.

5.40j Work with Omnitrans to plan for bus shelters and turnouts.

5.40k Incorporate bus shelters and turnouts into design and approvals of new developments as necessary.

5.50 Bikeways

The relatively flat valley portion of Redlands, with about two-thirds of the Planning Area's potential residents and almost all of its jobs, is attractive for both bicycle commuters and recreational riders. The bicycle routes are adopted by resolution and consolidate previous City staff recommendations and designations of the *East Valley Corridor Specific Plan.*

"Bikeway" means all facilities that primarily provide for bicycle travel. Three categories of bikeways are defined:

Class 1 Bikeway (Bike Path or Bike Trail) Provides a completely separated right of way designated for the exclusive use of bicycles and pedestrians with cross flows by motorists minimized.

Class II Bikeway (Bike Lane) Provides a restrictive right of way designated for the exclusive or semi exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and crossflows by pedestrians and motorists permitted.

Class III Bikeways (Bike Route) Provides right of way designated by signs or permanent markings and shared with pedestrians and motorists.

Guiding Policies: Bikeways

5.50a Establish a comprehensive network of on- and off-roadway bike routes to encourage the use of bikes for both commute and recreational trips.

5.50b Seek assistance from major employers in providing support facilities to encourage use of bikes for commuter purposes.

5.50c Develop bike routes that provide access to schools and parks.

Implementing Policies: Bikeways

5.50e Designate a Class I route (bike path) along San Timoteo Canyon Road and/or along San Timoteo Canyon Creek.

5.50f Designate the Zanja corridor from downtown west as a Class I route (bike path).

This route could be used for access to jobs in the East Valley Corridor as well as a recreational route to the Santa Ana Wash.

5.50g Designate a Class I route adjacent to but outside the Santa Fe railroad right-of-way from New York Street in downtown Redlands to east of Wabash Avenue.

In conjunction with a north-south bike route on Opal Avenue, this bike route would provide convenient bicycle access to downtown as well as to the Santa Ana Wash.

5.50h Designate a Class I Route (bike path) along portions of California Street and Palmetto Avenue within the East Valley Corridor.

This route would serve major commute destinations within the East Valley Corridor.

5.50i Designate a Class I Route (bike path) along the Santa Ana River and extend the length of the City of Redlands.

5.50j Designate Class II routes (bike lanes) along portions of Cypress Avenue, Fern Avenue, Terracina Drive, Barton Road/Brookside Avenue, California Street, State Street, San Bernardino Avenue and Dearborn Street.

These routes, in combination with the Class I routes above, will provide good bike access between residential areas of Redlands and the East Valley Corridor.

5.50k Establish Class III routes (shared route) along collectors (Highland Avenue, Sunset Drive, Alessandro Road, Alta Vista Drive, Opal Street) and along minor arterials (San Mateo Street, 5th Avenue, Sand Canyon Road, Texas Street, Church Street and Orange Street).

5.50l Incorporate bike storage and other support facilities into TDM plans at employment sites and public facilities, when feasible based upon distance from bikeways.

Studies have indicated the importance of providing well-located, secure bike storage facilities at employment sites, shopping and recreational areas and schools in order to facilitate bike use. Employers often provide shower and changing facilities where sizable numbers of employees use bikes.

5.50m Prepare a bikeways implementation program that includes priorities and a schedule.

5.50n Publish and distribute a map showing existing and proposed bikeways in the Redlands Planning Area.

5.50o Plan and design bikeways with special consideration given to the safety of bicyclists and pedestrians.

5.60 Pedestrianways

Walking is discouraged by many city development practices intended to save money, facilitate traffic flow, or enhance security. Sidewalks often adjoin fast traffic lanes, parking lots lack pedestrian paths, and residential street systems make pedestrians walk much further than necessary. Finally, walking along arterial streets that do not provide access to adjoining properties is boring. The General Plan seeks to increase walking to school, to shop or work, and for pleasure.

Guiding Policies: Pedestrianways

5.60a Treat pedestrians as if they are more important than cars.

Except on freeways and a few hillside residential streets, pedestrians should have direct, safe routes to the same destinations.

5.60b Make walking interesting.

Avoiding long, uniform frontages and creating pedestrian paths that do not follow streets give people a reason to want to walk.

5.60c Provide direct pedestrian routes.

Owners' desires to live on cul-de-sacs, builders' desires to build less street, and the City's desire to minimize intersections combine to make pedestrian access circuitous in many neighborhoods. Direct paths to arterial street bus stops can increase transit patronage.

5.60d Provide a safe and healthful pedestrian environment.

This means providing separate pedestrianways in parking lots, avoiding excessive driveway widths, and providing planting strips between sidewalks and streets where feasible.

5.60e Develop a program to remove all barriers to disabled persons on arterial and collector streets.

5.70 Redlands Airport

The Redlands Municipal Airport, on the bluff adjoining the Santa Ana Wash between Judson Street and Wabash Avenue, is a City-owned, general aviation facility. Scheduled passenger service is not envisioned. The 1993 Airport Master Plan projects an increase in average daily aircraft operations from 230 in 1991 to 260 in 1995 to 326 in 2005 and 391 in 2015. Increases in demand for general aviation facilities have been lower than expected, but *East Valley Corridor Specific Plan* development may cause faster growth.

The projected area of noise impact, as defined by the Community Noise Equivalent Level (CNEL) 65 dB contour, within which single-family residential development is generally considered unacceptable, extends west to 750 feet west of Judson Street and east to a point 250 feet east of Opal Avenue in the year 2015. No homes exist within this area. The City has required dedication of an avigation easement as a condition of development approval for projects within one mile of the projected CNEL 65 dB contour.

Guiding Policies: Redlands Airport

5.70a Develop Redlands Airport to meet the general aviation needs of the Planning Area based on capabilities of the existing runway.

5.70b Maintain compatibility of airport operations with development in the surrounding area.

The 1993 Redlands Municipal Airport Master Plan found no adverse noise impact from current operations and no future impact if residential development is prohibited within the projected CNEL 65 dB contour. No significant current or future safety impact was identified.

Implementing Policies: Redlands Airport

5.70c Utilize the 1993 Redlands Municipal Airport Master Plan in planning for the growth and expansion of the airport and facilities.

5.70d Require use of aircraft noise abatement procedures for departures of aircraft.

5.70e Limit land use within the projected CNEL 65 dB contour to agriculture, open space, golf course, and light industry.

The General Plan Diagram reflects this policy.

5.70f Require dedication of an aviation easement as a condition of development approval for projects within one mile of the CNEL 65 dB contour.

Continuation of this policy alerts buyers to the proximity of the airport and protects the City from possible attempts to limit airport use.

5.70g Review the Comprehensive Airport Land Use Plan (CALUP) being prepared for Redlands Municipal Airport to ensure conformity between the CALUP and the General Plan.

5.70h Evaluate the compatibility of surrounding development with airport operations by using the Comprehensive Airport Land Use Plan during discretionary project reviews.

5.71 Southeast Area Circulation Issues and Policies

This section of the Circulation Element provides a discussion of circulation issues and policies specific to the Southeast Area of Redlands, in San Timoteo and Live Oak canyons. For a detailed discussion of land use and other policies for the Southeast Area, refer to Section 4.42 of the Land Use Element of this General Plan.

General Circulation Issues in the Southeast Area - Traffic has been one of the major issues related to the development of the Southeast Area. This issue has generally focused on congestion and, in particular, congestion in the surrounding community (for the most part congestion in the Sunset Drive area).

The issue of traffic congestion also applies to Alessandro Road, San Timoteo Canyon Road, Live Oak Canyon Road, and to the character of the traffic within the proposed development areas inside the Planning Sectors in the Southeast Area. (See Section 4.42 of the Land Use Element for a discussion of Planning Sectors in this area.)

The issue of traffic congestion in the Southeast Area is a system capacity issue which is far more complex than just one street section. For example, the Sunset Drive area has been developed with and is now committed to a very low capacity road system. Sunset Drive and its 11 side streets possess great character and charm, but have the capacity to carry only small amounts of traffic. Thus, additional traffic loading from any source will overload portions of the system almost immediately. Because the problem and therefore the solution is one involving a system, it cannot be substantially understood without a system analysis. Such an analysis can be done, but the cost will be substantial. The planning study for the Southeast Area Plan allocated only limited funds for traffic analysis; therefore, only a limited traffic analysis was completed.

Certain basic terms and concepts were used to analyze the traffic issues.

First, simplistically stated, traffic volumes are related to the surrounding development. The density of residential development selected for a given Planning Sector will have a direct effect on the number of vehicle trips generated within the Sector.

Second, traffic volumes are broken commonly into two categories for calculation purposes: **Average Daily Trips** (ADT) and **Peak Hour Trips** (AM Peak and PM Peak). In most cases, roadways are designed to accommodate traffic at the peak time period (in most cases, approximately 7 to 9 a.m. and 4 to 6 p.m., the typical rush hours).

Third, roadways are evaluated by calculations of their "capacity," the volume of traffic that can pass along a given segment in a given time frame while maintaining adequate speeds and with an acceptable level of congestion. Because traffic must slow to execute turn movements, the capacity of the intersections along a roadway very often constraints capacity.

Fourth, the capacity of a segment of roadway to handle a given amount of peak traffic, the heaviest loading, becomes one common "measure of capacity" or capability of that segment of roadway. Another measure of capacity is the total average number of daily trips (ADT) which can be accommodated on the roadway.

Finally, the amount of congestion, or lack of same, is expressed in Levels of Service (LOS). Generally, LOS A (the best level of traffic flow) represents free flow; at LOS F (the worst level of congestion), traffic flow slows almost to a halt. LOS C is viewed by most traffic engineers and communities as "acceptable" and includes some congestion.

Using Level of Service C is the design standard in the Southeast Area, the following constraints currently exist:

Sunset Drive from Alessandro Road to approximately Alta Vista along much of its length currently operates Level of Service B . Traffic studies prepared for the Southeast Area Plan indicated that if Sunset Drive possessed a 40 mph design speed (that is, the speed at which vehicles could safely travel) which it does not it is at LOS B over most of its Alessandro to Alta Vista length. Factors not considered in the model are:

- The very narrow roadway cross section in many places along Sunset Drive.
- The numerous intersections and driveway entries.
- The tight turns, combined with the undulating roadbed.

The 40 mph design assumption was used because this is the slowest design speed available in the computer model used to prepare the traffic analysis. Because the actual design speed is less than 40 mph, the estimate of LOS B overstates the ability of traffic to flow on Sunset Drive; the actual LOS is probably lower (that is, more congestion is present than the computer model predicted).

If Level of Service C is acceptable and anything lower is not, then additional loading of Sunset Drive should be controlled to keep the level of service from going below LOS C. POLICY 5.71a provides specific guidance for future traffic analysis of Sunset Drive is accomplished.

Alessandro Road from San Timoteo Canyon Road up to Sunset Drive forms the western perimeter of the Southeast Area, and is the only link between the area and Redlands proper. Because of this, it appears Alessandro will be a major link from the study site to downtown Redlands unless there is specific design otherwise.

Beginning on Alessandro Road at San Timoteo Canyon Road and working north toward town, the first section of concern is the section centered on the San Timoteo crossing. The bridge and its northern approach currently appear marginal and require major revision. Research conducted for the Southeast Area Plan indicated that the bridge width is inadequate to accommodate even the lowest projected traffic volumes and needs to be widened, and that the curve to the north of the bridge needs to be straightened out. This may require an entire new bridge in a new location (probably to the west of the current location).

The section of Alessandro Road from the bridge to Sunset Drive appears to be basically adequate to accommodate projected development in the Southeast Area with some widening and minor realignment of a couple of curves.

The intersection at Alessandro Road/Sunset Drive appears to need restructuring whether or not the Southeast Area is developed. Once restructured, it appears this intersection could accommodate projected traffic volumes of the magnitude contemplated by the Southeast Area Plan. Depending on the density of development in the area, various intersection flow regulators (stop signs, signals, turn pockets, etc.) would be required, but it appears the intersection could accommodate the projected volumes if improved.

Alessandro Road north of Sunset Drive appears adequate to projected future demand, but its "T" intersection into Crescent and the indirect routing from there on into downtown Redlands results in limited additional capacity being available for through traffic.

Policy 5.71b addresses the need for a comprehensive study of Alessandro Road.

San Timoteo Canyon Road forms the southwestern boundary of the Southeast Area, and is the historical route linking Redlands to the Banning-Beaumont Pass area. When the I-10 freeway was constructed, the "through traffic" moved onto the freeway and San Timoteo Canyon Road began carrying mostly local traffic.

The fertile San Timoteo Canyon, with the San Timoteo Creek watercourse on one side, the mainline railroad down the center, and the roadway on the other side makes a major character statement in the Southeast Area. This statement consists of at least three ingredients:

First, the fertility of the valley has been historically stated by the presence of the citrus groves. Second, the important rail line and historic roadway linkage have stamped the canyon as a transportation corridor over the years. Third, and perhaps of unrealized impact to the area, the sounds of the large freight trains working their way through the canyon can be heard throughout the Southeast Area, and are a unique characteristic of the canyon specifically and the area in general.

Policy 4.42z, in the Land Use Element of this General Plan, addresses future planning along the San Timoteo Canyon Road corridor.

To accommodate regional growth, San Timoteo Canyon Road is projected on both the San Bernardino County and Riverside County master plans as a 4-lane divided highway with a carrying capacity in the range of 20,000 to 25,000 vehicles per day. In order to accommodate this expansion, the existing roadbed must be widened and realigned. It appears this upgrading of San Timoteo is a certainty in the near future. If this is the case, the question becomes: What should the alignment design of this new roadway be, since its capacity is basically predestined?

Policy 4.42bb, in the Land Use Element of this General Plan, expresses the City's position toward future development along San Timoteo Canyon Road.

Live Oak Canyon Road forms the southeastern boundary of the Southeast Area, and has historically provided a connection to Yucaipa, as well as local access. The perception of Live Oak Canyon is of a ribbon of fertile land astride a gorged canyon lined with Oak trees, the fertile narrow valley among the dry, brown hills. It is this perception this feel which appears to be the important characteristic of the canyon which should be preserved and enhanced.

This *perception* as a canyon consisting of a shallow gorge type watercourse lined with trees, however, is somewhat inaccurate. Close inspection reveals that this is only partially true since there are significant trees in certain locations, but not really continuous and with only a few oak trees in the mix. As development adjacent to this watercourse occurs, the watercourse itself will most likely become obscured from public view and its perception will fade unless steps are taken to prevent this from occurring. Also, unless steps are otherwise taken, it is likely the watercourse itself will be denaturalized by channelization, eliminating the trees and the existing gorge character. Thus, it appears that there needs to be a positive program initiated to ensure the continuance of the public perception of the gorged watercourse, the trees and the fertile ribbon so as to preserve this characteristic.

Policy 4.42y, in the Land Use Element, provides policy for retaining the character of Live Oak Canyon.

As is the case in San Timoteo Canyon, Live Oak Canyon Road is planned on both the San Bernardino County and Riverside County master plans as a 4 lane, divided highway with a design capability in the range of 20,000 to 25,000 trips per day in order to accommodate regional development. In order to accommodate this the existing roadbed is going to have to be widened and realigned in several locations and one or more major bridge structures built.

At this time, it appears the question is not whether, but when will this upgrading occur and what form will it take. The issue to be addressed in the Southeast Area, therefore, is where should the realignment be located and what should be the ultimate character of this arterial so that the ultimate result will possess the existing "fertile valley astride the gorged watercourse" feel identified above.

Policy 4.42aa addresses the City's position toward future development in Live Oak Canyon.

On-Site Roads: Because there are no local roadways of note in the Southeast Area, there is no historic character for roadways. There is, however, an overall perceived character for the area which logically dictates a roadway and traffic character. This overall perceived character is one of a low density, natural, rural feel and also leaves one mindful of certain natural constraints, such as hills, watercourses, rock outcroppings, and the like. Translated to roadway design terms, this indicates a design which will accommodate the volumes generated in a casual manner which is sensitive to the existing natural environment. This is to say that the system will not be perceived as being able to overcome all of the obstacles of nature by enough cutting and filling. As an example, roadways should be directed around stands of large trees rather than cutting through them, or should cross a watercourse on a bridge rather than bury the watercourse in an underground pipe.

This suggests a roadway system designed for relatively low speeds due to the necessity to follow the natural contours and avoid the inherent obstacles of nature. This in turn requires that adjacent land use densities be low to ensure that this slow speed system is not overloaded.

Policy 5.71c addresses the design of future roadways in the Southeast Area.

Planned Circulation in the Southeast Area - The following are plans and policies for future roadway improvements in the Southeast Area.

Alessandro Road: The Southeast Area Plan proposes to upgrade Alessandro Road from San Timoteo Canyon Road to Crescent Avenue. This will allow Alessandro Road to fulfill its western perimeter function in the circulation system with the minimum impact on adjacent land uses.

The Southeast Area Plan also attempts to absolutely minimize additional traffic demands on Alessandro Road by upgrading San Timoteo Canyon Road and Live Oak Canyon Road to route regional traffic around Alessandro Road.

Alessandro Road will require realignment and improvements to accommodate even a very low density of development in the Southeast Area. This intersection should be restructured, even though this will require a significant amount of grading.

The alignment of Alessandro from Sunset to the canyon mouth just before the river crossing should be improved in some places, but appears to be basically adequate as it currently exists.

The Alessandro bridge over the watercourse is inadequate in width to handle the projected traffic of even the lowest density scenarios developed for the Southeast Area. Consideration should be given to realignment of the roadway, widening of the bridge, and possibly the need for a relocated bridge.

Policy 5.71d addresses a future realignment and upgrading of Alessandro Road.

Sunset Drive: The Southeast Area Plan recognizes the severe capacity limitations present on Sunset Drive. The traffic study referred to above the most comprehensive conducted to date for the Southeast Area concluded that the current level of service on Sunset Drive from Alessandro Road to Alta Vista is at "B" at best, and is probably lower. Because service lower than level of service "C" is considered, almost universally, unacceptable, the Southeast Area Plan does not provide or require significant traffic connections directly to Sunset Drive. Except for Planning Sector 2, all access within the plan area is routed internally within the plan area and connects to the "outside" via Alessandro Road, San Timoteo Canyon Road, or Live Oak Canyon Road.

Planning Sector 2 is a plateau with existing access to Sunset Drive. Providing access to Live Oak Canyon Road would require extensive grading. Because of this, access from Sector 2 to Sunset Drive is anticipated, but must be carefully. evaluated on a case-by-case basis.

Other similar situations involving small acreage of undeveloped property along Sunset Drive or feeder streets to Sunset Drive exist which would not be practical to access from Live Oak Canyon Road. Again, this is recognized in the Southeast Area Plan, but requires careful case by case analysis.

Several emergency only connections to Sunset Drive are proposed which are "not open-to-the-public" traffic ways.

San Timoteo Canyon Road: The existing and future regional arterial highway function of San Timoteo Canyon Road requires that the existing roadbed be significantly upgraded. San Timoteo Canyon Road is shown on both the San Bernardino County and Riverside County master plans as a 4-lane divided highway. The Southeast Area Plan proposes that this be accomplished in a timely manner to encourage regional trip users to pass around Redlands rather than attempting to pass through town via Alessandro Road, Crescent Avenue, and other local streets. Additionally, the plan proposes that the City of Redlands take a lead role in connecting the upgraded San Timoteo to the I-10 Freeway in the vicinity of I-10/California Street interchange. Again, the purpose of this proposal is to encourage regional users to drive around (rather than through) Redlands proper.

Live Oak Canyon Road: The Southeast Area Plan recognizes the need in the near future to upgrade Live Oak Canyon Road consistent with the San Bernardino and Riverside County master plans (as a 4-lane arterial highway). The Plan supports the proposition that this upgrading should be done in a timely manner consistent with the regional demand. The Plan strongly recommends that the City of Redlands take a strong active role to realign Live Oak Canyon Road next to the existing watercourse in such a manner as to form a scenic parkway with the watercourse as the backbone. This will not only accommodate the future traffic demands but will also result in a scenic highway which will preserve the gorged canyon signature characteristic of Live Oak Canyon and simultaneously provide Redlands with a distinctive southern boundary consistent with the City's historic image.

Internal Street System: The Southeast Area Plan proposes that the local street system within the area be designed in a manner subservient to the significant natural features present. The plan proposes that there be a perimeter road system around each major canyon bottom in the area. This perimeter road system is proposed as a combination scenic road and fire access/fuel modification facility (discussed in detail under Fire Prevention, below). This perimeter road should be, in turn, connected to one or more entry roads leading out of the natural mouth of the respective canyon and connecting to Alessandro, San Timoteo, or Live Oak as appropriate. Further, the cross sections of these perimeter roadways and the internal connectors thereto are proposed as rural standard two lane roads as depicted in GP Figure 4.4, Roadway Cross Sections.

Guiding Policies: Southeast Area

5.71a Sunset Drive is at or near capacity. Therefore, significant additional traffic loads should not be placed on this roadway until a comprehensive traffic model, to include all the connector streets into the downtown area and freeway interchanges, shows that the additional load(s) can be accommodated with no section of the model performing below Level of Service C.

5.71b A comprehensive design study of Alessandro Road from Crescent to San Timoteo Canyon Road shall be undertaken to redesign Alessandro Road to accommodate the traffic projected by the development of the Southeast Area Plan and to specifically address the currently inadequate narrow bridge, the curve approach to the bridge, the intersection with Sunset Drive, and the intersection with Crescent Avenue.

5.71c Local roadways within the Southeast Area shall be designed for relatively low speeds, shall follow the natural contours and shall avoid rather than cut through the inherent obstacles of nature. It is recognized that this may require that adjacent land use densities be low to ensure that this slow speed/low volume system is not overloaded.

5.71d Alessandro Road shall be realigned and upgraded, with specific attention to the Sunset Drive intersection and the San Timoteo Creek bridge crossing.

6.0 HOUSING ELEMENT SUMMARY

REDLANDS GENERAL PLAN

6.0 HOUSING ELEMENT SUMMARY

California Government Code Sections 65580 through 65589 require the Housing Element to contain:

- An assessment of housing needs, and an inventory of resources and constraints relevant to meeting those needs;
- A statement of the community's goals, quantified objectives, and policies relative to the maintenance, improvement, and development of housing; and
- A program that sets forth a five-year schedule of actions the local government is undertaking or intends to undertake to implement the policies and achieve the goals and the objectives of the Housing Element.

The complete Housing Element, including the data and analysis required by State guidelines as well as program policies, is published as a separately bound document. This summary includes the Housing Program comprising all adopted policies (Section 6 of the complete Housing Element).

The Housing Program consists of Guiding Policies, Implementing Policies, and Quantified Objectives under seven headings:

Affordable Housing
Housing for People with Special Needs
Housing Sites
Removing Constraints to Housing Production
Residential and Neighborhood Conservation
Access to Housing
Residential Energy Conservation

State law requires the Southern California Association of Governments (SCAG) to identify housing need and allocate shares to each of the region's local governments at five-year intervals. The State extended this allocation to 1996, creating a seven-year period. During the 1983-1988 allocation period, Redlands added 4,244 housing units, exceeding its allocation by nearly 50 percent. Partially as a result of this high growth rate, Redlands' 1989-1994 allocation was set at 3,981 units. While the General Plan provides more than enough land for this amount of growth, a growth control zoning ordinance known as Proposition R, as amended by Measure N, purports to allow no more than 2800 units (excluding congregate and single room occupancy units) to be built within the City and 1,050 units provided with service connections located in the County and later to be annexed into the City during the seven year period. Therefore, the City is relying upon congregate units and single-room occupancy units to meet the regional share requirements.

Housing Element law and SCAG allocations emphasize the responsibility of each community to provide housing affordable by moderate-income households (80 to 120 percent of county median household income), low-income households (50 to 80 percent of median) and very-low-income households (less than 50 percent of median). The City's goal set in the 1985 Housing Element was to add 570 to 780 units affordable by very-low- and low-income households between 1984 and 1989. The number built or approved was 487, well below the 1,059 allocated by SCAG, but at more than 10 percent of all units built, an effort matched by only a few California cities. The 1989-1996 goal is 784 units, construction, conservation, and rehabilitation programs. GP Table 6.2, **Redlands Quantified Objectives for City Program and Private Activity by Income Level for 1989-1996**, shows Quantified Housing Goals.

GP Table 6.1
Redlands Quantified Housing Goals 1989-1996

CONSTRUCTION	UNITS/YEAR	7-YEAR TOTALS
UNITS ALLOWED UNDER PROPOSITION R (a Zoning Ordinance)	400	2,800
Incorporated Area	150	1,050
Unincorporated Area (to be annexed)	550	3,850
Subtotal		
AFFORDABLE PROGRAMS GOAL		
Density Bonus[a] (assume 20 percent of projects totaling 700 units)	20	140
Mortgage Revenue Bonds	5	35
Mobile Homes	20	140
HOME	5	35
Non-profit Housing Provider	6	42
Subtotal	56	392
PRIVATE, MARKET-RATE UNITS GOAL[b]	494	3,458
UNITS EXEMPT FROM MEASURE N GOAL		
Congregate Units	35	245
Single-Room Occupancy Units	5	35
Subtotal	40	280
Total Units to be Constructed	590	4,130
CONSERVATION/REHABILITATION		
AFFORDABLE PROGRAMS		
Buy-out Assistance for HUD-financed units		219
Senior and Handicapped Repair Grants		100
CDBG Rehabilitation Loans		30
Rental Rehabilitation Loans		30
TOTAL UNITS TO BE CONVERTED OR REHABILITATED		379

[a] Assuming the maximum 3,850 units allowed under Measure N, a zoning ordinance are built. There may be some overlap with other affordable programs; in addition, set-asides for owner and custom-built single-family housing and multifamily projects with four or fewer units will decrease the opportunities for density bonus units.

[b] Private, market-rate units to be constructed are estimated by subtracting affordable units from the total allowed under Measure N, a zoning ordinance.

Source: Blayney Dyett Greenberg and Redlands Community Development Department

GP Table 6.2
Redlands Quantified Objectives for City Program and Private Activity by Income Level for 1989-1996

QUANTIFIED OBJECTIVE	NEW CONSTRUCTION	REHAB	CONSERVATION
Very Low Income			
Public	176	30	119
Private	417	0	0
Total	593	30	119
Low Income			
Public	216	30	200
Private	666	0	0
Total	882	30	200
Moderate Income			
Public	0	0	0
Private	726	0	0
Total	726	0	0
Above Moderate			
Public	0	0	0
Private	1,781	0	0
Total	1,781	0	0
TOTAL ALL UNITS	**3,982**	**60**	**319**

6.10 Affordable Housing

The elimination of direct federal subsidies for new housing for low- and moderate-income households has placed much of the responsibility for producing affordable housing on local jurisdictions. Market-rate ownership housing in Redlands is out of the reach of almost all low- and most moderate-income families who do not have equity in an existing home. While rental housing is more affordable by low- and most moderate-income households, many very-low-income households are paying more than 30 percent of their income for housing costs. By creating a high density residential designation rental housing market rents can be low enough to accommodate even very-low income households.

Guiding Policies: Affordable Housing

6.10a Participate in programs assisting in the production of housing affordable to very-low-, low-, and moderate-income households.

6.10b Ensure that units produced for very-low-, low- and moderate-income households are made available to those groups and maintained as affordable units.

6.10c Provide for a geographic dispersal of units affordable to very-low-, low-, and moderate-income households.

6.10d Ensure that the City's plans, codes, regulations, and ordinances, as well as housing program incentives, encourage the provision of a mix of housing types that are responsive to household size, income, and accessibility needs.

Implementing Policies: Affordable Housing

6.10e **Density Bonus.** As part of its housing program, the City will comply with Government Code Section 65915, which requires a minimum density bonus of 25 percent above the otherwise maximum allowable density, or "incentives of equivalent financial value" for projects with 10 percent of their units affordable to very-low-income households, or 20 percent to low-income households, or 50 percent for senior citizens. Rental units will remain affordable for a minimum of 30 years; resale controls will be placed on ownership units to maintain their affordability for future owners. Affordable units will be dispersed throughout the project.

Responsible Agencies: Redlands Community Development Department; Redlands City Council

Quantified Objective: 140 units (20 percent of projects totaling 700 units)

Actions Needed: Revision of existing ordinance to include measures to maintain affordability. Adopt ordinance revision by January, 1996.

Financing: Staff time to prepare affordability maintenance measures and administer program.

During the period 1985 through 1995, the density bonus program produced 117 units, 75 affordable to very-low-income households, and 42 to low- to moderate-income households.

6.10f **Non-profit Housing Providers.** Support efforts of non-profit housing sponsors such as Baptist Homes of America and Corporate Fund for Housing in constructing, acquiring, and

Responsible Agencies: Redlands Community Development Department; Redlands City Council

Quantified Objective: 42 units senior housing.

Actions Needed: Determine level of commitment to be made and work to engage non-profit housing providers in an active partnership. Initiated in May, 1994 and will continue on a regular basis.

Financing: Staff time.

Non-profit groups, because of their tax-exempt status, flexibility, and special expertise are often ideal partners for public agencies in building affordable housing. Successful groups know how to combine available resources, structure deals, and create and use political support to produce affordable housing beneficial to the community, with minimum public investment and effort. The recent cooperation between the City of Redlands and the Redlands Redevelopment Agency and Baptist Homes of America to win federal Section 202 funds and work out a deal involving a land cost write-down by the agency and development fee deferral by the city provides an example of what can be accomplished. In May 1994, the Agency agreed to assist with land acquisition and funding assistance for 40 additional senior units to be built by Baptist Homes of America. Funds were distributed for land acquisition in March 1995 and escrow closed immediately thereafter. It is anticipated that the Agency will provide additional funds for construction provided the project receives HUD approval and funding.

6.10g **Redevelopment Low- and Moderate-Income Housing Funds.** Use 20 percent of tax increment in redevelopment area for the production of housing affordable to low- and moderate-income households, with emphasis on housing for those households with very low incomes.

Responsible Agency: Redlands Redevelopment Agency

Quantified Objective: Not quantifiable. The Redevelopment Agency has been leveraging funds to create and assist developing units in other programs. To identify units for this program would result in "double counting."

Actions Needed: Assistance to providers of below-market rate housing. Funds are available immediately. Commitments are made as determined by the Agency.

Financing: Tax increment in redevelopment project area.

California Health and Safety Code Section 33334.2 requires that 20 percent of a redevelopment agency's tax increment funds be use for increasing and improving the community's supply of low- and moderate-income housing, unless the agency makes findings each year that such funds are necessary to meet existing financial obligations. If such findings are made, a deficit fund is established and a deficit reduction plan must be written. Also, findings of "equivalent effort" may be made by the agency, showing that either the agency or its sponsor has supported programs intended to aid low- and moderate-income people. The Redlands Redevelopment Agency made equivalent effort findings through 1991. As of May 1995, there was approximately $1.2 million available in the Agency housing set-aside fund. For the fiscal year beginning July 1, 1995, there will be approximately $1.9 million available for housing which will be distributed as follows:

20%	*First Time Home Buyers*
30%	*Single-Family Rehabilitation*
10%	*Multi-Family Rehabilitation*
30%	*Developer Assistance*
5%	*Mobile-Home Assistance*
5%	*Administrative Budget*

The Redevelopment Project Area Plan will end in 1997 unless action is taken by the City Council to extend the Plan. If the Plan ends, so will the associated set aside low and moderate income funds.

6.10h **Mortgage Revenue Bonds.** Continue to participate in mortgage-revenue-bond programs that provide tax exempt low-cost financing to developers of projects making a portion of ownership units affordable to moderate-income households and rental units to very-low-income households.

Responsible Agencies: Redlands City Council (The City may issue bonds or may participate in issues by San Bernardino County); Redlands Community Development Department

Quantified Objective: Three multifamily projects. If projects average 60 units, the seven year affordable total would be at least 35 very-low-income units.

Actions Needed: Work with developers who propose suitable projects. Process is ongoing.

Financing: Staff time; bond interest cost is borne by federal and State governments.

Mortgage Revenue Bonds may be used to finance the construction or rehabilitation of single-family homes and construction, mortgage, and capital improvement loans for multifamily housing. For multifamily housing, provisions of the federal Tax Reform Act of 1984 require 20 percent of the units to be occupied by very-low-income households.

During 1985 to 1994, the City and San Bernardino County built 268 affordable units, 38 very-low- and 230 low-income, in Redlands using MRBs.

6.10i **Mortgage Credit Certificates.** Investigate the use of Mortgage Credit Certificates.

Responsible Agencies: Redlands City Council or San Bernardino County; Redlands Community Development Department

Quantified Objective: Not determined.

Actions Needed: Staff to contact agencies with on-going programs and determine feasibility for program in Redlands. Initiate by October, 1995.

Financing: Staff time.

Mortgage Credit Certificates (MCCs) were first authorized by the Tax Reform Act of 1984. The act permits state and local governments to exchange some or all of their authority to issue Mortgage Revenue Bonds (MRBs) for the authority to issue Mortgage Credit Certificates. A certificate entitles first-time home buyers with incomes less than 115 percent of median income to reduce the amount of their federal income tax liability by an amount equal to a portion of the interest paid during the year on their home mortgage. Unlike the standard mortgage interest rate deduction, which is subtracted from the adjusted income before calculating income tax owed, this credit is deducted from the actual money owed. The credits are in addition to the standard deduction. By allowing qualified home buyers to use more of their income on mortgage payments, the credit increases their effective home-buying power.

6.10j **(HUD) HOME Investment Partnership Program for Multifamily Housing.** Participation in the HOME program through the County of San Bernardino, Housing and Community Development.

Responsible Agencies: Redlands Community Development Department; non-profit organizations

Quantified Objective: 35 residential units available to low-income first-time buyers.

Actions Needed: Staff to coordinate with County of San Bernardino, Housing and Community Development and non-profit organizations. Initiated April, 1993 and is ongoing.

Financing: Staff time.

The (HUD) HOME Investment Partnership Program for Multifamily Housing replaces the State Rental Rehabilitation Program (SRRP), HUD Section 312 Program, Urban Homesteading, and HUD's Rental Rehabilitation for Entitlement Communities.

Money from the HOME program can be used for new construction, acquisition, or rehabilitation. The program emphasizes local governments working with non-profit housing development corporations. Local governments must assign 15 percent of their allocation to non-profits for rehabilitation or new construction. Local governments may also give money to private individuals.

The process for receiving grant money is based on a formula that considers the number of rental units constructed in a community before 1950 and its percentage of poor families. The City of Redlands has coordinated with San Bernardino County, Housing and Community Development and obtains funding jointly with their agency.

6.10k **Low Income Housing Tax Credits.** Investigate participation in the Low Income Housing Tax Credit program for owners of low-income rental housing.

Responsible Agency: Redlands Community Development Department

Quantified Objective: Not quantifiable.

Actions Needed: Staff to contact agencies with on-going programs and determine feasibility for program in Redlands. Initiate by October, 1995.

Financing: Staff time.

The Low Income Housing Tax Credit program provides a tax credit for owners of low-income rental housing. Eligible projects are those with at least 20 percent of the units occupied by very-low-income tenants or at least 40 percent of the units in the project occupied by tenants earning 60 percent of the median income adjusted for family size. Projects receiving the federal tax credit must meet these requirements for 15 years. A state tax credit requiring the unit to remain low-income for 30 years is also available.

The amount of credit available in each state is limited to $1.25 per capita, or $34 million in California per year. The California Tax Allocation Committee distributes the credits.

6.10l **Buy-out Assistance for HUD-financed Projects.** Assist non-profits in purchasing apartment projects financed by the United States Department of Housing and Urban Development that contain below market rate units threatened with conversion to market rate.

Responsible Agencies: Redlands Community Development Department; Redlands City Council

Quantified Objective: Maximum of 219 units.

Actions Needed: Determine need, and, if necessary, seek funds and establish program guidelines. Initiate by October, 1995.

Financing: Staff time, funds for grants or loans.

Apartment projects built with financial assistance from HUD, either Federal Housing Administration (FHA) or Section 8 low-cost loans, have units the rents for which are set at given levels for the life of the contract. Many of these contracts are coming to an end, with a resulting possible loss of affordable rental units. An inventory compiled by the California Housing Partnership Corporation lists two HUD-financed projects in Redlands, the Redlands Park Apartments and the Citrus Arms. The total number of assisted units in these projects is 219; the rent subsidies could be terminated as early as 1992 and effectively end in 1997.

Title VI of the National Affordable Housing Act of 1990 (Cranston-Gonzales Act) provides funds for the preservation of affordable housing when a complex is threatened with conversion to market-rate due to pre-payment of the loan. Under the Act, HUD-financed projects threatened with conversion must first be offered for sale for three months to tenants of non-profit agencies. If after three months the project is not sold, the owner may sell to anyone; however, the unit must remain affordable for the life of the building if sold between 3 and 15 months of being offered. After 15 months, the owner can sell to anyone without restriction.

6.10m **Public Housing.** Cooperate with the San Bernardino County Housing Authority in developing, maintaining, and improving low-income housing.

Responsible Agency: Redlands Community Development Department; Redlands City Council

Quantified Objective: Not quantifiable.

Actions Needed: Cooperate with the San Bernardino County Housing Authority in locating suitable sites and obtaining funding. Initiate by November, 1995.

Financing: No cost to city.

The San Bernardino County Housing Authority in 1995 operates 202 units of public housing on six sites in Redlands, and provides Section 8 certificates and vouchers to 101 families. As of July 1989, there was a waiting list of 122 families for public housing and 317 families for Section 8 certificates and vouchers.

Due to reductions in funding, only six units have been built out of the 1984 to 1989 goal of 20 to 30. Future construction will depend on the federal and state governments providing more funding.

6.10n **Mobile Homes.** Study and adopt regulations designed to retain existing mobile home parks and encourage new mobile home parks and subdivisions. These may include:

- Designation of specific sites for mobile home park or subdivision development.
- Incentives and assistance to encourage the conversion of existing mobile home parks to mobile home subdivisions where this would preserve mobile home living.
- Provisions to encourage relocation in Redlands of mobile home park spaces displaced by public or private development activities.

Responsible Agencies: Redlands Community Development Department; Redlands City Council

Quantified Objective: 140 units, a 16 percent increase in the 1989 stock of 830 units.

Actions Needed: Add implementing language to zoning and subdivision regulations. Initiate by June, 1996.

Financing: Staff time to prepare regulations.

In accordance with state law (Government Code Sections 65852.3 and 65852.7), the City allows manufactured housing on single-family lots and mobile home parks in residential zones. From 1985 to 1988 302 mobile homes were added, according to the California Department of Finance (DOF). Between 1988 and 1994, 155 mobile homes were added, according to the Redlands Community Development Department. As of 1994, only one of Redlands mobile homes parks, The Redlands, still had space for expansion.

Development of mobile home parks, the major source of affordable single-family housing, has slowed statewide because land owners in urban areas realize a greater return for other urban uses.

6.10o **Mobile Home Rent Control.** Continue current rent control program that limits rent increases in existing parks to no more than the Consumer Price Index increase for that year.

Responsible Agency: Redlands Mobile Home Rent Control Board; Redlands City Council

Quantified Objective: No new mobile homes affected.

Actions Needed: Continue existing program. Program is continuous and ongoing.

Financing: Board expenses.

6.10p **Limited Equity Cooperatives.** Retain existing policy of encouraging formation of limited equity stock cooperatives.

Responsible Agency: Redlands City Council

Quantified Objective: Not quantifiable.

Actions Needed: None.

Financing: None.

By limiting the profit made when an individual sells "stock" in a cooperative, cooperatives are able to retain affordable housing. No applications were received during 1985 to 1994.

6.10q **Self-Help Housing.** Allow building standards to be relaxed in new development and allow owners to move in and complete finishing touches on the home themselves to save on the final purchase price.

Responsible Agency: Redlands Community Development Department

Quantifiable Objective: 10 or more units.

Actions Needed: Revision of existing ordinances. Adopt ordinance by August, 1996.

Financing: Staff time to revise ordinances.

6.10r **Community Development Block Grant Program**. Funding program to assist in accomplishing programs identified within the Five Year Housing Program. The City currently participates with the County in this federal grant program.

Responsible Agency: Redlands Community Services Department

Quantifiable Objective: Set aside funds to accomplish housing goals.

Actions Needed: Annual allocation of CDBG Funds.

Financing: CDBG Program.

During the fiscal year 1994-1995 the City received an allocation of $379,600.00. Similar annual allocations are anticipated in future years.

6.20 Housing for People with Special Needs

Section 4.2 identified those groups with special housing needs in Redlands: seniors, large families, female-headed households, disabled persons, and homeless families and individuals.

Guiding Policies: Housing For People With Special Needs

6.20a Provide incentives for development of affordable housing for seniors, single mothers, and disabled persons on sites where proximity to services and other features make it desirable.

6.20b Encourage the development of affordable housing units with three or more bedrooms.

6.20c Encourage the development of emergency and transitional housing for homeless persons and families.

Implementing Policies: Housing for People with Special Needs

6.20d **Density Bonus for Including Apartments for Large Households.** Allow a 25-percent density bonus for projects having 25 percent three-bedroom units or 15 percent four or more bedroom units (total density bonus not to exceed 25 percent).

Responsible Agency: Redlands Community Development Department

Quantified Objective: 25 percent of projects totaling 300 units.

Actions Needed: Revision of existing ordinances. Initiate by March, 1996.

Financing: Staff time.

6.20e **Housing Referral and Placement Program**. Support establishment of a program for those needing housing to link with those wanting to share their homes or wishing to take advantage of the City's "second dwelling unit" ordinance (6.20i).

Responsible Agencies: Redlands Community Development Department and a non-profit organization

Quantifiable Objective: Not quantifiable.

Action Needed: Work with a non-profit to establish and implement such a program. Initiate by March, 1996.

Financing: Staff time.

6.20f **Half-way House for Disabled Persons**. Encourage a non-profit to undertake a study identifying the need for such a project for people aged 16-65. If there is a need, possibly help locate site.

Responsible Agencies: Redlands Community Development Department; non-profit organization

Quantified Objective: One or two sites as needed over the next five years.

Actions Needed: Ensure community support, site location. Initiate by January, 1996.

Financing: Staff time.

6.20g **Day Care in Planned Residential Developments**. To help single parents, provide a density bonus of 10 percent above maximum allowable density for projects including an adequate day care facility, total density bonus not to exceed 25 percent. A possible situation would provide for the day care center to be used as a club house in the evenings.

Responsible Agency: Redlands Community Development Department

Quantified Objective: At least three day care facilities over the next five years.

Actions Needed: Ensure existing ordinances do not interfere with this program. Initiate by January, 1996.

Financing: Staff time.

6.20h Federal Funding for Low-Income Senior and Handicapped Housing. Assist non-profit developers in pursuing federal funding for additional low-income housing for seniors and handicapped persons.

Responsible Agencies: Redlands Community Development Department; Redlands City Council; Redlands Redevelopment Agency; Non-profit groups

Quantified Objective: Not quantifiable.

Actions Needed: Engage the interest of non-profit developers, and help them locate sites and apply for funds. Initiate by October, 1996.

Financing: Staff time; perhaps feasibility study funding and other contributions, such as write-downs of land owned by public agencies and fee forgiveness.

The Federal Department of Housing and Urban Development (HUD) has a series of loan programs to fund non-profit developers of low-income rental and cooperative units for elderly or handicapped people. These include zero-interest Section 106(b) loans for up to $50,000 for pre-development expenses, and low-interest Section 202 and Section 811 loans for construction and rehabilitation.

6.20i Second Dwelling Unit Ordinance for Seniors and Handicapped.

Responsible Agencies: Redlands Community Development Department; Redlands City Council

Quantified Objective: 14 units.

Actions Needed: Maintain Second Dwelling Unit Ordinance in accordance with State law. Process CUPs as requested. Process is on-going.

Financing: Staff time.

The City of Redlands adopted a Second Dwelling Unit Ordinance in 1992 and updated the Ordinance in 1994 in accordance with State law.

6.20j Congregate Housing. Encourage congregate housing.

Responsible Agency: Redlands Community Development Department; Redlands City Council

Quantified Objective: 245 units.

Actions Needed: Ensure City policies and zoning do not hinder such development. Review of City ordinance, complete by October, 1996.

Financing: None.

Congregate housing, which is usually intended for seniors but also may be used for the handicapped, students, and single mothers, features private rooms or apartments with shared communal facilities, such as kitchens and recreation areas. In Redlands, small kitchens are allowed in the units themselves so long as tenants pay for two common meals per day.

Current City regulations allow congregate care housing in residential areas of Redlands as a conditional use. There is one 177-unit congregate housing complex for seniors in Redlands already. Projects mixing congregate and nursing care units are proposed for the Sphere of Influence.

Proposition 84, passed by California voters in June 1988, includes funding for a $15 million demonstration program for new construction and rehabilitation of rental housing "accompanied by supportive services and employment training programs." Under the program, congregate housing must include communal child-care facilities and job training and placement.

6.20k Single-Room Occupancy Housing. Encourage the maintenance and development of single-room occupancy housing by identifying existing and potential units and supporting development with loans, fee waivers, and relaxed standards.

Responsible Agencies: Redlands Community Development Department; Redlands City Council

Quantified Objective: 35 units.

Actions Needed: Identification of existing structures and potential sites, winning the interest of developers, and working out appropriate incentives. Initiate by December, 1995.

Financing: Staff time; perhaps loans or forgiven fees.

Many cities have found existing single-room occupancy hotels (SROs) to be a valuable source of housing for very-low-income persons. In addition, new SROs represent a cost-effective means of providing permanent and transitional housing. In most SRO new projects, new development "pencils out" with very little public financial support or concession.

One outstanding project, the first SRO built in California in 70 years, is the Baltic Inn in San Diego. This 207-room project was built by private developers, charges $275 per month per room, and turns a profit. San Diego made the project feasible with a $500,000 loan, relaxed parking standards, and lowered water and sewer fees. Of the current tenants, 25 percent are elderly, and the remainder are mostly newcomers to San Diego who intend to use the Inn as transitional housing. As of September 1988, San Diego's program had rehabilitated or built 500 units, 700 more were in construction, and permits for another 800 were being obtained, all by private developers. New SROs, like the Baltic and Downtown inns and Trolley Court attracted over $25 million in private financing in San Diego. The SRO idea has also been taken up in San Francisco, Oakland, Berkeley, Los Angeles, Pittsburgh, Chicago, Atlanta, and New York.

Proposition 77, passed in June 1988 along with Proposition 84, sets aside $25 million for residential hotel rehabilitation.

In Redlands, the likely sources of SRO units are obsolete motels that are no longer able to compete for the travelling clientele.

6.20l Emergency Shelter Services and Transitional Housing. Support efforts by local non-profit groups to provide emergency shelter and transitional housing, with special emphasis on homeless families.

Responsible Agencies: Redlands Community Development Department; Redlands City Council; Redlands Family Services, the United Way, and other interested non-profit organizations

Quantified Objective: Not quantifiable.

Actions Needed: Designate sites; aid in obtaining grants, fund with loans or CDBG money.

Continue on-going support to non-profits. Staff to research sites, grants and funding by December, 1995.

Financing: Staff time; perhaps provide with loans and other financial incentives.

Delaware House, run by "Frazee" a San Bernardino homeless service organization and funded in part by the United Way, provides shelter for 15 people over age 55 and could serve as a model. With the estimated number of homeless ranging from 45 to 350 and more, the need for more shelter is apparent.

Possible funding sources include the Emergency Food and Shelter Program operated by local boards of the Federal Emergency Management Agency (FEMA), Community Services and Development Block Grants (CSBGs and CDBGs), and the California Emergency Shelter Program (ESP).

6.20m Permanent Housing for the Handicapped, Homeless (PHH). Investigate participation in the PHH program.

Responsible Agencies: Redlands Community Development Department; non-profit organizations

Quantified Objective: Not quantifiable.

Actions Needed: Staff to contact agencies with on-going programs and determine feasibility for program in Redlands. Staff to contact possible project sponsors. Initiate process in February, 1996.

Financing: Staff time.

The Permanent Housing for the Handicapped, Homeless (PHH) program is part of the federal McKinley Act. The process begins with an request for proposal, issued early in the year with a deadline for application. The state administers the funding and application process. Winners are announced in August. The program requires a well-written description of services for the project, matching funds, site-control or at least an option on the property. While non-profits apply most often, cities may also apply and often participate in providing matching funds.

6.20n First- and Last-Month Loan Program. Provide short-term, zero-interest loans to cover the first- and last-month's rent and security deposit for qualifying households. Household income must be 50 percent or less of the median income, yet must be sufficient to pay the rent.

Responsible Agencies: Redlands Community Development Department; Redlands City Council

Quantified Objective: Not quantifiable.

Actions Needed: Establish loan guidelines, program procedures, allocate staff or find third party to administer program. Investigate program alternative by March, 1996.

Financing: Loan funds, perhaps using CDBG or emergency services monies, staff time

For some homeless people, and some threatened with homelessness, gathering the cash to pay for moving-in costs is the major, insurmountable, obstacle to finding housing. This program would provide the necessary, temporary funding for such move-in costs. San Bernardino County already provides grants for the first-month's rent and security deposit, but only to recipients of Aid to Families with Dependent Children.

6.30 Housing Sites

The General Plan provides for 6,768 additional housing units within the 1995 city boundaries, exceeding the SCAG 1989-1996 housing allocation by 70 percent. Sufficient land is zoned and served to meet 100 percent of the low and very-low-income housing need assuming a large number of units will be added at the High and Medium Density levels. Projected density bonuses, congregate and single-room occupancy housing is in addition to these totals. Factory built and mobile homes are allowed in all residential zones, although given the density usually requires at least a low density residential designation. Tables 23A, 23B and 23C within the Housing Element identify the available residential sites.

Guiding Policy: Housing Sites

6.30a Designate and zone sufficient land to meet housing needs as determined by regional housing allocation.

Implementing Policies: Housing Sites

6.30b Amend the Zoning Ordinance to include standards for congregate housing in Medium Density areas designated on the General Plan Diagram.

Responsible Agencies: Redlands Community Development Department; Redlands City Council

Quantified Objective: Not quantifiable.

Actions Needed: Prepare congregate housing density standards and ordinance text. Initiate by March, 1996.

Financing: Staff time.

6.30c Amend the Zoning Ordinance to include standards for Single Room Occupancy (SRO) housing within the Downtown Specific Plan area.

Responsible Agencies: Redlands Community Development Department; Redlands City Council

Quantified Objective: Not quantifiable.

Actions Needed: Prepare standards and ordinance text. Adopt ordinance by September, 1996.

Financing: Staff time.

6.30d **Emergency Shelter and Transitional Housing Sites.** To foster the development of emergency and transitional housing, designate suitable sites.

Responsible Agency: Redlands Community Development Department; Redlands City Council

Quantified Objective: Not quantifiable.

Actions Needed: Continue to assess need and allow such facilities by right in appropriate zoning districts. Initiate and adopt an ordinance by August, 1996.

Financing: Staff time.

Section 65583(c)(1) of the California Government Code states that local jurisdictions must "identify sites which will be made available through appropriate zoning and development standards and with public services and facilities needed to facilitate and encourage the development of a variety of types of housing for all income levels, including rental housing, factory-built housing, mobile homes, emergency shelters, and transitional housing".

According to the California Department of Housing and Community Development (HCD), suitable sites should be close to public agencies, transportation, and facilities, have reasonable development costs, and the General Plan designation or zoning must permit development or use "without undue special regulatory approval". The department cites Los Angeles as adopting a zoning ordinance that allows emergency shelters and transitional housing by right in high density residential and commercial zones.

6.30e Create New Multiple Family Residential Zoning to Accommodate Medium and High Density Residential General Plan Designations

Responsible Agency: Redlands Community Development Department; Redlands City Council

Quantified Objective: Not quantifiable.

Actions Needed: Prepare an ordinance amendment to accommodate medium and high density General Plan designated areas. Initiate and adopt ordinance by June 1996.

Financing: Staff time.

6.30f **Annexation of County Sphere Area.** To meet SCAG's requirements residential projects of approximately 150 units each year from the County sphere areas may apply for annexation to the City.

Responsible Agency: Redlands City Council

Quantified Objective: 150 units each year

Actions Needed: Assist in annexation proceedings through LAFCO for recently developed projects in the County sphere areas.

6.40 Removing Constraints to Housing Production

Guiding Policy: Removing Governmental and Non-Governmental Constraints to Housing Production

6.40a Remove constraints to production and availability of housing to the extent consistent with other General Plan policies.

6.40b Remove or reduce the impact of non-governmental constraints to housing production.

Implementing Policies: Removing Constraints to Housing Production

6.40c **Amend Zoning Ordinance.** Provide zoning provisions which allow residential densities up to 27 units per acre in accordance with the new High Density General Plan designation.

Responsible Agency: Community Development Department; Redlands City Council

Quantified Objective: Not quantifiable.

Actions Needed: Development of Zoning Ordinance Amendment (see related policy 6.30e). Initiate and adopt ordinance by November, 1995.

Financing: Staff time.

6.40d **Revise Redlands Municipal Code to Assist Low Income Households.** Amend the point system for awarding and allocating units to give more emphasis and greater point value to projects that include housing affordable to lower-income households.

Responsible Agency: Community Development Department; Redlands City Council

Quantified Objective: Not quantifiable.

Actions Needed: Amendment to ordinance pertaining to the point allocations. Preparation and adoption of amendment by March, 1996.

Financing: Staff time.

The current point system does allocate 10 points for low income projects. The intent of this policy is to give additional points to low income projects.

6.40e **Development Fees.** Development fees should be evaluated on a regular basis to ensure they accurately reflect the costs to mitigate impacts from development projects fairly. The City Council may assist senior and low-income housing projects by assisting in payment of fees through use of Redevelopment Agency Set-Aside Funds or Community Development Block Grant Funds. The City Council on September 19, 1994 adopted Ordinance 2254 which authorized a 50% reduction on certain water and sewer fees. This ordinance sunsets in March of 1996.

Responsible Agency: Redlands City Council

Quantified Objective: Not quantifiable.

Actions Needed: Continue current procedure. Establish specific policy for assistance with fees. Practice is on-going, policy to be prepared by February 1996.

Financing: Staff time.

The City has utilized Redevelopment Agency set-aside funds to assist the Section 202 Senior housing Project developed by American Baptist Homes and the R-SB Harbinger Corporation for handicapped housing.

6.40f **Participate in Establishment of Building Code.** The Uniform Building Code is adopted at National and State levels. The City may participate and potentially influence the adoption of new codes to ensure unnecessary costs are not added while criteria is incorporated to assist those with special housing needs.

Responsible Agency: Community Development Department

Quantified Objective: Not quantifiable.

Actions Needed: Attend and participate in updates of the Uniform Building Code on an on-going basis.

Financing: Staff time.

6.40g **One-Stop Permit Processing.** Improve current practice by creating a one-stop counter more convenient to the public. Continue preliminary review process to assist applicants with filing process.

Responsible Agency: Community Development Department; Redlands City Council

Quantified Objective: Not quantifiable.

Actions Needed: Improve and continue current practice.

Financing: None.

6.40h **Planned Residential Development.** Maintain current ordinance that allows flexible open space and setback standards.

Responsible Agency: Redlands City Council

Quantified Objective: Not quantifiable.

Actions Needed: Continue current practice.

Financing: None.

6.40i **Mixed Use Zoning.** Retain current zoning that allows residential units on upper stories in the downtown commercial district and other housing in the Administrative/Professional zones. Provide new incentives such as floor area bonuses in the downtown and other commercial districts.

Responsible Agency: Community Development Department; Redlands City Council

Quantified Objective: Not quantifiable.

Actions Needed: Continue current practice and amend the Downtown Specific Plan to provide additional incentives to create housing. Adopt amendment by August, 1996.

Financing: None.

6.40j **Expand Urban Services.** Fees are collected so that urban services and associated infrastructure can be expanded. Services to Northeast Redlands, San Timoteo and Live Oak Canyon areas will require the planning and development of facilities so these areas may be served.

Responsible Agency: Public Works Department; Municipal Utilities Department; Community Development Department; Redlands City Council

Quantified Objective: Not quantifiable.

Actions Needed: Continue current practice. Initiate planning for San Timoteo and Live Oak Canyon areas by September, 1996.

Financing: Staff time and inspection fees.

6.40k **Mitigate Finance Costs for Low Income Projects.** Work with bonding institutions to make available funds for low income projects in City of Redlands. Identify and promote programs that reduce costs for low income projects (See policies 6.10g and 6.10h).

Responsible Agency: Community Development Department

Quantified Objective: Not quantifiable.

Actions Needed: Continue current practice. On-going.

Financing: Staff time.

6.40l **Maintain a Large Supply of Available Sites to Maintain Competitive Land Costs.** The City has identified sites that exceed the identified need by over 70 percent. By maintaining more sites than identified need competition will help to maintain lower land costs.

Responsible Agency: Redlands City Council

Quantified Objectives: Not quantifiable.

Actions Needed: Adopt the General Plan and amend zoning as needed (related Policies 6.20k, 6.20l, 6.30b, 6.30c, 6.30e, and 6.40c)

Financing: Staff time.

6.40m Establish a Fast-Track Development Process. The City has worked with developers to reduce processing time by being flexible on submittal dates and overlapping processes. This can become more formalized and made available to housing projects.

Responsible Agency: Community Development Department

Quantified Objectives: Not quantifiable.

Actions Needed: Formalize a "Fast Track" development process. Initiate by November, 1995.

Financing: Staff time.

6.40n Evaluate and Revise Zoning Standards. The City currently evaluates and amends zoning standards to reflect current needs. This should be continued.

Responsible Agency: Community Development Department

Quantifiable Objective: Not quantifiable.

Actions Needed: Continue current practice, on-going.

Financing: Staff time.

6.40o Evaluate and Revise Off-site Improvement Standards. The City has modified off-site standards for certain types of housing development. This process can be continued and expanded to reduce costs to housing.

Responsible Agency: Public Works Department

Quantifiable Objective: Not quantifiable.

Actions Needed: Continue current practices and evaluate and amend standards. On-going.

Financing: Staff time.

6.50 Residential and Neighborhood Conservation and Rehabilitation

The following policies seek to improve the condition of housing, to protect neighborhoods from deterioration, and to enhance and preserve the historical and architectural character of housing. More detailed policies concerning historical and architectural preservation are included in the Conservation Element.

Guiding Policies: Residential and Neighborhood Conservation and Rehabilitation

6.50a Maintain Redlands' housing stock in sound condition.

6.50b Rehabilitate substandard housing where feasible.

6.50c Provide public services and improvements that enhance and create neighborhood stability.

6.50d Preserve and protect residential historical and architectural resources.

Implementing Policies: Residential and Neighborhood Conservation and Rehabilitation

6.50e **Adaptive Reuse of Single-Family Homes.** Where historic homes are located in multifamily zoned areas, allow conversion to multifamily use only if the home's exterior appearance is preserved. Enforce design guidelines to ensure that new or renovated multifamily buildings are compatible in appearance with neighboring homes.

Responsible Agencies: Redlands Community Development Department; Redlands City Council

Quantified Objective: Not quantifiable.

Actions Needed: Prepare necessary ordinances. Adopt ordinances by December, 1996.

Financing: Staff time.

The citizens of Redlands are proud of their city's architectural heritage and are concerned that it be preserved. This policy is intended to balance the need for more affordable housing and housing choice with the need to preserve Redlands' traditional appearance and atmosphere.

6.50f **Condominium Conversion Ordinance.** Retain existing policy of prohibiting condominium conversions unless City zoning and housing code standards met.

Responsible Agencies: Redlands Community Development Department; Redlands City Council

Quantified Objective: Not quantifiable.

Actions Needed: Continue existing policy. On-going.

Financing: Staff time.

No applications were received during 1985 to 1995.

6.50g Senior and Handicapped Housing Grants. Continue existing program.

Responsible Agencies: San Bernardino County; Redlands Community Development Department; Redlands City Council

Quantified Objective: 100 units.

Actions Needed: Continue existing program. On-going.

Financing: Use CDBG funds to pay for repair crews.

The City uses part of its Community Development Block Grant (CDBG) funds to provide repair grants to seniors and handicapped people. Because Redlands receives its CDBG funds under the "small cities" program, San Bernardino County administers the program, sending out crews to make the repairs.

6.50h Community Development Block Grant (CDBG) Rehabilitation Loan Program. Continue existing program.

Responsible Agencies: San Bernardino County; Redlands Community Development Department; Redlands City Council

Quantified Objective: 30 units.

Actions Needed: Continue and publicize existing program.

Financing: CDBG funds for loans.

This program is similar to the Senior and Handicapped Grant Program, except low-interest loans are provided to qualified owners instead of outright grants, and recipients must arrange for the work to be done.

6.50i Rental Rehabilitation Program. Continue existing program of providing CDBG federally-funded loans with deferred repayment for rehabilitating rental units.

Responsible Agencies: Redlands Community Development Department; Redlands City Council

Quantified Objective: 30 units.

Actions Needed: Continue present program.

Financing: CDBG funds for loans.

This program is similar to the Senior and Handicapped Grant and CDBG Rehabilitation Loan programs. Loans of up to $10,000 are made at prime rates, with interest payments deferred for seven years provided the units are kept affordable to low-income households.

6.50j **Outreach Program for Rehabilitation and Repair Programs.** The City of Redlands participates with the County of San Bernardino in its Rehabilitation and Repair Programs. Improved information, knowledge, and assistance in filling out applications would result in greater participation.

Responsible Agencies: Redlands Community Development Department; Redlands City Council

Quantified Objective: Not quantifiable.

Actions Needed: Develop and initiate an outreach program. Develop program by December, 1995 and initiate by January, 1996.

Financing: Staff time.

6.60 Access to Housing

Equal access to housing is protected by state and federal law. Discrimination on the basis of race, ethnic or national origin, religion or marital status is prohibited by the Federal Civil Rights Act of 1968 and by Section 53 of the California Unruh Civil Rights Act. The Federal Fair Housing Amendments Act of 1988 prohibits discrimination based on handicap and familial status. The Rumford Fair Housing Law (part of the California Fair Employment and Housing Act of 1980) also protects individuals access to housing.

The Fair Housing Amendments Act prohibits discrimination against children. Mobile home parks and other developments designed specifically for seniors or handicapped are exempt.

Guiding Policy: Access to Housing

6.60a Work to ensure that individuals and families seeking housing in Redlands are not discriminated against on the basis of age, sex, family structure, national origin, or other arbitrary factors.

Implementing Policy: Access to Housing

6.60b **Fair Housing Counselling**. Continue to contract with the Inland Mediation Board to provide landlord-tenant mediation and fair housing counselling.

Responsible Agencies: Inland Mediation Board; Redlands City Council

Quantified Objective: Not quantifiable.

Actions Needed: Continue present program. On-going.

Financing: Maintain present CDBG funding.

6.70 Residential Energy Conservation

The following policies are in compliance with Government Code Section 65583(7), which requires analysis of opportunities for residential energy conservation.

Guiding Policy: Residential Energy Conservation

6.70a Establish development and construction standards that encourage energy conservation in residential areas.

Implementing Policies: Residential Energy Conservation

6.70b **Design Standards.** Develop or revise design standards relating to solar orientation of buildings, landscaping, fences, impervious surfaces, and parking-space requirements to conserve energy.

Responsible Agencies: Redlands Community Development Department; Redlands City Council

Quantified Objective: Not quantifiable.

Actions Needed: Revise design standards. Adopt standards by December, 1996.

Financing: Staff time.

6.70c **Subdivision Ordinance.** Incorporate into a revised Subdivision Ordinance a requirement for lot orientation and design to take advantage of passive solar heating and cooling, maintenance of solar access, street widths, and proper planting of trees to reduce heat gain and loss.

Responsible Agencies: Redlands Community Development Department; Redlands City Council

Quantified Objective: Not quantifiable.

Actions Needed: Revise subdivision ordinance. Adopt new ordinance by December, 1996.

Financing: Staff time.

6.70d **Land-Use Patterns and Densities.** In new development areas, encourage land-use arrangements and densities that facilitate energy-efficient public transit systems.

Responsible Agencies: Redlands Community Development Department; Redlands City Council

Quantified Objective: Not quantifiable.

Actions Needed: Consult with Omnitrans, the local transit provider. On-going.

Financing: Staff time.

6.70e **Neighborhood Services.** Encourage the retention and creation of neighborhood-level services throughout the City in order to reduce energy consumption and promote neighborhood identity.

Responsible Agencies: Redlands Community Development Department; Redlands City Council

Quantified Objective: Not quantifiable.

Actions Needed: Amend Zoning Ordinance to implement Land Use Element Policy 4.51b. Adopt ordinance by December, 1996.

Financing: None.

7.0 OPEN SPACE AND CONSERVATION ELEMENT

REDLANDS GENERAL PLAN

7.0 OPEN SPACE AND CONSERVATION ELEMENT

Several types of open space or areas identified for conservation are shown on the General Plan Diagram, including Parks/Golf Courses, Agriculture, Flood Control/Construction Aggregates, Conservation/Habitat Preservation, and Resource Conservation. These land use categories are described more fully in Section 4, Land Use Element.

In addition to the General Plan Diagram, seven figures depict open space or conservation areas throughout the Planning Area. These are found in the General Plan and associated with Master Environmental Assessment (MEA) and include GP Figure 8.2, Slope, GP Figure 7.2, Biotic Resources, GP Figure 8.1, Environmental Hazards, MEA Figure 5.2, Agricultural Lands, and MEA Figure 10.1, Archaeologic Sensitivity.

The Citizens of Redlands, continuing their founders' heritage, place a high value on scenic resources, open space (especially citrus preservation), parks and recreation lands. This commitment was documented by the passage of a bond measure in 1987 for the purpose of acquisition of land for parks and open space.

Integration of the Open Space Element and Conservation Element

In function and content, the Open Space Element and Conservation Element often overlap. The Conservation Element is oriented toward the management of natural resources to prevent waste, destruction or neglect. The Open Space Element, in contrast, emphasizes open space as a land use and requires that preservation and management of natural resources be considered in land use planning and decision-making. This combined Open Space and Conservation Element describes conservation practices within the state-designated types of open space described below, meeting the requirements of both elements. In addition, Redlands' archaeological resources are considered.

Cross-Reference to Other Elements

Issues concerning open space for public health and safety are fully described in the Health and Safety Element. Preservation of historic resources is considered in the City Design and Preservation Element. Open space districts are defined in the Land Use Element.

State Classification of Open Space

State law requires that four types of open space be analyzed in the Open Space Element. Open space land is any parcel or area of land or water that is essentially unimproved and devoted to open space use, which may include:

- Open space for outdoor recreation including areas of outstanding scenic and cultural value, areas suited for parks/recreation purposes, areas which link major recreation and open space reservations such as utility easements, banks of rivers and streams, trails and scenic highway corridors.

- Open space for the preservation of conservation of natural resources, including, but not limited to, preservation of nature, wildlife migration, riparian, scenery, and points of interest.

- Open space for the managed production of resources, including, but not limited to, agricultural lands.

- Open space for public health and safety such as flood plains, watersheds, earthquake fault zones, and unstable soil areas.

7.10 Parks and Recreational Open Space

This section contains policies for parks, golf courses, and recreation purposes, including areas that serve as links between major recreation and open space reservations, such as trails, and areas of outstanding scenic and cultural value and corresponds to the "open space for outdoor recreation" category in State Planning Law. Land acquired or dedicated for permanent agricultural use, even if part of a park, is described under Section 7.40, Managed Production of Resources. Open space reservations could include term utility easements, and banks of rivers and streams.

The General Plan Diagram uses circles or polygons with rounded corners to indicate proposed parks. At some locations more than one site in the vicinity of the symbol may be appropriate and could be approved without amending the General Plan. Pocket parks (two acres or less) are not shown on the General Plan Diagram. A complete listing of parks is found in GP Table 7.1.

Many of the park and recreational open space policies and proposals are taken from the June 1987 Park and Open Space Plan adopted in principle by the City Council.

Standards

Neighborhood parks are designed primarily to meet the needs of elementary- school-age-children households within one mile. These parks include picnic and play areas. The seven existing parks range from five to 17 acres. The Plan proposes three additional parks ranging from eight to 15 acres. It is recommended that, where possible, neighborhood parks be located in conjunction with schools. A broadly held standard for park acreage in California is 10-15 acres.

Community parks serve all ages and may include parklike landscaped areas, fields, courts, and large play areas. The four developed community parks and two partially developed sites range from 11 to 27 acres and also serve as neighborhood parks for nearby residents. The California standard recommends 15 to 30 acres for these parks. Three additional community parks would range from 20 to 25 acres.

City parks serve all ages and would be similar to community parks but broader in range of activities. The Plan proposes two city parks ranging from 40 to 100 acres. The California standard is 100 acres. The City park proposed in San Timoteo Canyon could be a joint venture with the City of Loma Linda. The second site is in northeast Redlands at the northwest corner of Wabash and San Bernardino.

Regional parks have no standard recommendations though they are generally 150 acres and serve an entire geographical area. The Plan proposes two regional parks. The most appropriate and possible use for the two landfill sites in Redlands' Planning Area would be a joint venture between the City and San Bernardino County for the reuse of the landfill in San Timoteo Canyon and for the site at Palmetto and Nevada Streets. Methane gas migration from landfill sites should be carefully studied prior to reuse of landfill sites.

The need for additional facilities for organized sports will be met in the vicinity of Wabash Avenue and San Bernardino Avenue in northeast Redlands; at the new high school and in San Timoteo Canyon. Other proposed city and regional parks would also provide additional sports fields.

GP Table 7.1
Existing and Proposed Parks

Park	Neighborhood	Community	City	Regional	City Groves	Other[1]	Applicable to Acres/ 1,000 Residents Standard[2] (Policy 7.10j)
EXISTING							
Brookside	9.2						9.2
Caroline Park	16.8						8.0
Centennial Park[3]						30.0	3
Community Center						2.6	2
Community Park		18.2					18.2
Crafton Park	7.5						7.5
Ed Hales Park						.3	.3
Ford Park		27.0					27.0
Franklin Park						.6	.6
Jennie Davis Park	5.2						5.2
Judson/San Bernardino[3]	12.8				6		12.8
Prospect Park		11.4			24		11.4
Simonds Parkway						.9	.9
Smiley Park	9.2						9.2
Sylvan Park		23.3					23.3
Texonia Park	8.8						8.8
Orange Avenue Farm[3]		18.7					18.7
San Timoteo Canyon[3]						39.0	13.0
Sunset Hills[3]						40.0	5.0
Lincoln/Laramie[3]						.8	.8
Crafton Hills[3]						238	25
Amethyst/Hwy 38[3] Scout House		27.1					17.0
Texas Armory						2.0	0
The Terrace						2.5	2.5

1 - Other for proposed Parks = flood control, natural for viewing, pocket (mini) parkland. Other for Existing Parks = Natural areas/mini pocket parks; **2** - Land not applicable to the standard consists of steep hillsides, flood control area, and pocket parks that may be valuable components of the parks system but are not suited for intensive use; **3** - Acquired but undeveloped parks; **4** - Proposed but undeveloped parks.

GP Table 7.1
Existing and Proposed Parks (Continued)

Park	Neighborhood	Community	City	Regional	City Groves	Other[1]	Applicable to Acres/ 1,000 Residents Standard[2] (Policy 7.10j)
Palmetto/Nevada[3]				80		16.7	80
Pioneer/Wabash San Bernardino[3]			90		10		90
Texas/Webster					13		0
Fifth Ave.					13		0
San Bernardino/Tennessee					10		0
I-10/California					5		0
Nevada/Palmetto					16.7		0
Olive Ave.					3.75		0
9 Elementary Schools[5]	28.0						28.0
3 Junior Highs 3 High Schools[5]		50.0					50.0
Subtotal	97.5	175.7	90	80	101.5	373.4	477.4
PROPOSED San Timoteo[4] Canyon Jt.			40.0			30.0	40.0
West Redlands[4]	8.0						8.0
Wabash at I-10[4]	16					2.0	16
Mission/Zanja[4]						.7	.7
Zanja Det. Basin[4]		20				20	20
Mentone4		20.0					20.0
Sand Canyon Area[4]	15						15
Live Oak Canyon[4]	12.0						12.0
Greenspot[4]		25.0					25.0
Northeast Airport[4]						60.0	30.0
Palmetto/Nevada[4]				80		16.7	80
Pioneer/Wabash San Bernardino[3/4]			66				66
San Tim Landfill[4]				75.0			75.0
Elementary[4]	15.0						15
Subtotal	50	65	40	75	0	110.7	260.7
Total at Buildout	147.5	240.7	130	155	101.5	484.1	738.1

1 Other for proposed Parks = flood control, natural for viewing, pocket (mini) parkland. Other for Existing Parks = Natural areas/mini pocket parks; **2** Land not applicable to the standard consists of steep hillsides, flood control area, and pocket parks that may be valuable components of the parks system but are not suited for intensive use; **3** Acquired but undeveloped parks; **4** Proposed but undeveloped parks; **5** School site area is assigned half-credit toward meeting the acres per thousand residents standard, consistent with the 1987 Recreation Element. Acreage shown is 50% of recreation area.

GP Table 7.2
Proposed Parks: Sites and Facilities

NEIGHBORHOOD PARKS	
West Redlands:	A few sites remain for a neighborhood park to serve the medium-density area located north of Brookside Avenue between Center and Alabama.
Sand Canyon Area:	The residential area in the vicinity of San Canyon should include a 15 acre park.
Live Oak Canyon:	The neighborhood east of Redlands Country Club lacks park service, but good sites remain south of the subdivided area and near proposed trail system. A 12 acre park could be combined with natural open space areas.
COMMUNITY PARKS	
Zanja Detention Basin:	By adding to the acreage needed for flood control, all or a portion of the basin could have park value or be used for athletic facilities.
Mentone:	A community park on Nice Avenue would be a major recreation facility oriented to Mentone (Note: There is a sports field site near Amethyst and Highway 38 which might serve this same purpose.)
Greenspot:	A community park may be appropriate to serve the Greenspot area.
CITY PARKS	
San Timoteo Canyon:	This proposed site has been considered good park land with citrus preservation for future development. It could be a strong possibility as a joint City venture with Loma Linda or developments across the Riverside County line.
REGIONAL PARKS	
San Timoteo Canyon:	This proposed park site is the County Landfill site and exists on the County plan for a park site. It could be a joint venture between the City and the County.
OTHER	Mini or pocket parks should be located throughout the City for neighborhood convenience. Equally valuable to the City are bridle trails, jogging trails, linear parks along the Santa Ana Wash, medians, greenbelts, right-of-way, easement, wash area, scenic viewpoints near and far.

The City's efforts to acquire more parkland and open space have been led by the Open Space Committee of the Redlands Parks Commission which was designated to recommend acquisition of land in accordance with the allocation of funds specified in Measure O, the Open Space and Park Land Acquisition measure approved by voters in 1987. Land allocation percentages of the $7.2 million bond were as follows: citrus preservation, 22 percent; expanded parks and recreation, 27 percent; natural area preservation, 15 percent; sports complex, 14 percent; strip parks and trails, 12 percent; and City entrance land, 9 percent. These percentages were established by City Council based upon community survey.

Golf Courses

The General Plan anticipates three 18-hole golf courses in addition to the private Redlands Country Club course, thus meeting the traditional standard of one golf course per 25,000 residents. The site adjoining the Santa

Ana Wash north of Mentone (160 acres) is within the Redlands Airport noise impact area and is envisioned as a municipal course. The Greenspot (204 acres) and San Timoteo Canyon (140 acres) golf courses are expected to be developed in conjunction with large residential subdivisions. The location of the Mentone and Greenspot golf courses are schematically shown on the land use map reflecting a non-specific site. A golf course in San Timoteo Canyon is also shown on the land use Diagram in a non-specific location.

Guiding Policies: Parks and Recreational Open Space

7.10a Create a high quality, diversified park system that enhances Redlands' unique attributes.

7.10b Provide adequate park acreage and recreation facilities conveniently accessible to all present and future residents.

7.10c Enhance the presence of natural and recreational opportunities in the City and increase park use by selecting new, highly accessible locations for parks.

7.10d Identify the needs of special user groups, such as the disabled and elderly, and address these in park and recreation facility development.

7.10e Minimize substitution of private recreation facilities for developer fee payment or park dedication to ensure that a public park system will be permanently available to the entire community.

7.10f Encourage preservation of natural areas within and outside the Planning Area as regional parks or nature preserves.

7.10g Review park standards periodically to determine whether needs are being satisfied and how long-term costs will be met.

7.10h Continue cooperative efforts with the Redlands Unified School District through joint use agreements for park and recreational facilities. Locate new neighborhood parks in conjunction with elementary or middle schools wherever feasible.

Although school/park areas are not available for public use at all times and do not contain complete park facilities, substantial cost savings justify shared use.

7.10i Equitably share the cost of improved park standards between existing and new residents, businesses, and property owners.

Implementing Policies: Parks and Recreational Open Space

7.10j Provide 5 to 6 acres of neighborhood, community, and city park area for each 1,000 Planning Area residents. This standard excludes specialized, low use park acreage and includes half of the area of school sites.

If all parks designated on the General Plan Diagram are acquired, there will be 7.9 acres per 1,000 residents at buildout vs. 7.2 acres existing (developed and undeveloped) in 1994 (City population only). When considering only developed parks, (189 acres) there are approximately 3 acres per 1,000.

7.10k Where suitable land is available at acceptable cost, provide all residential areas with a neighborhood/community park (8 or more acres where available).

7.10l Calculate park fees to enable purchase of acreage and provision of off-site improvements for 5 acres of park land per 1,000 residents added.

State law (Quimby Act) allows the City to require dedication or payment of in-lieu fees sufficient to buy and provide off-site improvements for a maximum of 3 acres per 1,000 new residents if existing parks are at or below this standard and up to 5 acres if a higher standard has been maintained. Fees, even if updated annually, are rarely sufficient; appraisals at the time a final subdivision map is recorded are authorized by the law.

7.10m Continue levying a parks and open space fee on nonresidential development commensurate with expected use of park and recreational facilities by employees.

A number of California cities collect such fees.

7.10n Seek any available State and federal grant assistance in implementing the parks and open space proposals of the General Plan.

State bond funds available to Redlands have been committed (1991).

7.10o Use available techniques to minimize acquisition costs.

Sale below appraised market value ("bargain sale") to a non-profit land trust that re-sells to the City can provide tax savings to the seller.

7.10p Continue annual review of five-year plan recommendations by Strategic Planning/Open Space Committee of Parks Commission for needs and available funding mechanisms.

7.10q Continue the dedication of land along the Santa Ana bluff for a continuous linear park to be used as picnic and scenic area, and trail.

7.11r Encourage the development through acquisition and/or dedication of a linear park along the Zanja and the railroad right-of-way.

7.11 Trails

The City of Redlands has a long tradition in the use of trails by bicyclists, equestrians, hikers, and joggers. Many trails are unmarked or unidentified. Other trail systems are identified such as the beautifully illustrated Bridle Trail map of Isaac Ford commissioned in 1941 by the Chamber of Commerce. The existing trails can provide the framework for a system of scenic pathways that will enhance health, safety, and recreational enjoyment of the community.

A multi-use Master Plan of trails will expand and enhance individuals' opportunities for recreation, thereby improving the quality of life. With the increased awareness of the health benefits of walking and jogging, as well as the growing recreational use of bicycles, trails become more valuable to a greater portion of the community.

Concern about health is also reflected in the efforts to improve air quality. This has led to adoption of the Regional Air Quality Plan, from which policies have been adapted and included in the Health and Safety Element. Policies call for the provision of bicycle and pedestrian pathways to promote nonmotorized transportation and lessen dependency on private automobile use. These routes are to link activity centers to residential development. (See Section 8.12, Air Quality and Ground Transportation, and Section 8.14, Air Quality and Land Use.)

Trails can also serve as emergency evacuation routes in the event of a catastrophe that may make some trafficways impassable.

Rail and trail corridors designated on the General Plan Diagram have existing or proposed right-of-ways that at different locations and times may include either or both facilities. Five corridors are shown:

- Santa Ana Wash blufftop adjoining the proposed Scenic Drive;
- Santa Fe Railroad which provides freight service to Mentone and is proposed as a future commuter rail line;
- Mill Creek Zanja (Sankee), the historic irrigation ditch;
- San Timoteo Canyon adjoining the San Timoteo Creek; and
- Southern Pacific Railroad mainline.

A trails map was prepared by a City Council appointed Trails Committee and adopted by the City Council on October 7, 1992. The Trails Map (See Figure 7.1) identifies the general locations of Regional Trunk Trails and Primary Community Trails within the planning area. The Committee recognized four major types of trails; Regional Trunk Trails, Primary Community Trails, Secondary Community Trails and Connector Trails. The definition of these types of trails are as follows:

- Regional Trunk Trail - a trail which originates out of city and terminates out of city, but passes through the City of Redlands. Generally considered to be of regional significance, linking cities to regional amenities. This type of trail usually has been defined by agencies beyond Redlands, such as San Bernardino County. Examples of this kind of trail are the Santa Ana River Trail and the San Timoteo Creek Trail.

- Primary Community Trail - a trail which originates within the City of Redlands and terminates at one of the following:

  a. an entrance to a Regional Trunk Trail (thus giving the community access to the regional amenities).
  b. a major trail traffic generator (recreational site, school, park, equestrian center, business district).

  Examples of this kind of trail are the Downtown Zanja Greenway and children's trail, the Sunset Hills trails connecting the equestrian center and residential area with the regional trail, and the trails described in the East Valley Corridor Plan.

- Secondary Community Trail - (a.k.a. local feeder trail) a trail which provides a local neighborhood with routes for recreation, or access to primary trails. Usually this type originates within a residential area and experiences lighter usage than a primary trail. Optimally, these trails are designed in a loop configuration and located in scenic areas to maximize pleasurable usage.

  Examples of this kind of trail are the loops within the Sunset Hills Development which augment the primary trails.

- Connector Trail - a short section of trail route which allows the linkage of two sections of primary and/or secondary community trail. This designation carries the connotation of short linkage which might not be of the same standard as a formal primary or secondary trail, but which allows users to "connect" with the nearby trail.

  Examples of this type of connector trail might be a driveway, roadway, or bridge.

Trail locations on this map are non-site specific on any given property. They are subject to relocation as final development plans are approved. Property owners shall have discretion regarding the exact location of the trail on their property. Modifications shall be consistent with the overall planned Trail connections to assure continuity of the system. (See section 7.11 Open Space/Recreation Element Trails.)

LEGEND

- REGIONAL TRUNK TRAIL
- PRIMARY COMMUNITY TRAIL

JULY 1992

Redlands Planning Area
GP Figure 7.1

Trails Map

The Trails Map within the General Plan includes only Regional Trunk Trails and Primary Community Trails. Secondary Community Trails and Connector Trails will be incorporated in the Trails Master Plan as described in Implementing Policies 7.11d and 7.11k.

The following Regional Trunk Trails and Primary Community Trails are depicted on the Trails Map:

Regional Trails

1. Santa Ana Regional Trail
2. San Timoteo Creek Regional Trail
3. Live Oak Canyon Regional Trail
4. Crafton Hills/Zanja Peak Regional Trail
5. South Hills Regional Trail Along Edison Easement

Primary Community Trails

1. Downtown Zanja Trail
2. East Valley Corridor Trails
3. Deer Path Trail and Sunset Hills Signature Ridge Trail
4. Oak Grove Trail
5. Pilgrim Road Trail
6. Garden Street to Panorama Point Trail
7. Wabash to Sand Canyon Trail
8. Caroline Park to Oak Grove Trail
   a) Ridge Trail
   b) Edgemont Climb Trail
   c) Hermit Canyon Trail
   d) Quail Canyon Trail
9. Crafton Hills Reservoir Trail
10. Church Street to Panorama Point Trail
11. Alessandro Bridge to Treemont/South Hills Trail

Guiding Policies: Trails

7.11a Create and maintain a system of trails serving both recreational and emergency access needs. The system is to accommodate walking, hiking, jogging, and equestrian and bicycle use.

7.11b Prepare a Trails Plan depicting regional multi-purpose trails, community trails, local feeder trails, and including design standards.

7.11c It is the intent of the General Plan Trails Component of the Open Space and Conservation Element, and the policy of the implementing agency to work with landowners to develop, acquire, and maintain the trail system.

Implementing Policies: Trails

7.11d The Trails Plan (Figure 7.1) designates and generally locates the Regional Trunk Trails and Primary Community Trails within the Redlands Planning Areas. A Trails Master Plan should be developed to show all types of trails including Secondary Community Trails and Connector Trails.

7.11e Establish guidelines and standards for trails.

7.11f Establish agreement with public agencies and private entities for development and maintenance of trails in rights-of-way and utility corridors.

7.11g Encourage creation of a non-profit organization to assist in developing and managing the trails system.

7.11h Seek grants and alternative funding mechanisms for trail development and maintenance.

7.11i Consider referring projects to the Parks Commission for review and recommendations of trails.

7.11j Coordinate location of trails to relate to neighboring properties.

7.11k Review new development proposals for compliance with Trails Master Plan and provide for right-of-way dedication and improvement/development of trails.

7.11l Consider recreational amenities such as rest areas, benches, water facilities, and trial hitching posts to be incorporated in Master Plan trails.

7.11m Locate trail rights-of-way with concern for safety, privacy, convenience, preservation of natural vegetation and topography, and work with landowners on development proposals to incorporate and provide for continuous multi-use trail system.

Policy 7.21v in Section 7.21, Biotic Resources, specifies coordination of trail planning with habitat and species protection.

7.11n The trails incorporated in the 1972 General Plan shall continue to exist, as an interim policy, until the Trail Master Plan is adopted by City Council.

7.11o Expand street landscape standards to include trail landscape standards.

7.20 Preservation of Natural Resources

The natural resources for which policies of preservation have been designed include biotic resources (including vegetation, wildlife, and habitats), water resources, and energy resources. Preservation of each of these resources will contribute to the preservation of open space within the Planning Area. Waste management and recycling are also addressed in this section, since informed consumption can preserve natural resources by preventing overproduction of goods and by reduction in the production of nonrecyclable materials. In addition, the promotion of the reuse of recyclable materials can diminish the need for the use of virgin materials, and can aid in preserving as open space those lands that might otherwise be needed as landfill.

7.21 Biotic Resources

Prior to European settlement in the San Bernardino Valley, the Santa Ana River channel was lined with a leafy border of alders, sycamores, cottonwoods, and willows along an alignment which would now be centered in the Santa Ana Wash. The channel was a dominant landscape feature which contrasted with the Valley floor beyond, comprised of a series of dry, brush-covered areas separated by stretches of moist or swampy land. In general, prior to the introduction of widespread irrigation, which distributed water evenly across the area, the extreme dry and wet areas were more extensive than they are today.

The naturally occurring biotic communities within the Planning Area are principally defined by the climate, which is typical of Southern California inland areas. Mild winters, low annual rainfall, and prolonged, dry summers all profoundly influence the vegetative make-up and, consequently, the wildlife supported by it. Since the time of European settlement, the vegetation has been dramatically altered, replaced by urban development and

agriculture. Animal populations that have not been eliminated have been generally diminished, and most species have been displaced, suffering a loss of range. Remnants of native vegetation, found primarily in riparian areas, are today interspersed with introduced annual grasses, shrubs, or trees, and agricultural fields, all of which provide some habitat for remaining animals.

The Redlands Planning Area is fortunate in being surrounded by remnants of past natural communities, and by some of the surviving species characteristic of these habitats. Most of these valued habitats are found along waterways and serve as wildlife corridors in addition to habitat for the species which grow or dwell within them. To the north, the Santa Ana River Wash and Mill Creek provide habitat and function as wildlife corridors which connect the Wash and Creek habitats with the wildlands of the San Bernardino National Forest.

The Crafton Hills, whose slopes are covered primarily with introduced European species, perform an important role as a physical link between the Santa Ana River-Mill Creek-San Bernardino Mountains habitats and the Live Oak-San Timoteo canyons-Badlands area which frames the southern Planning Area. Wildlife, including larger mammals such as mule deer and mountain lion, are thought to traverse much of the corridor from the San Bernardino Mountains to the Badlands, a route they can travel in relative isolation from humans.

San Timoteo and Live Oak canyons each contain remnants of past natural communities of regional importance. The Badlands, while physically peripheral to the Planning Area, is ecologically linked with San Timoteo and Live Oak canyons, sharing some of the same vegetative associations and wildlife. San Timoteo Canyon Creek reconnects with the Santa Ana River west of the Planning Area, closing the circle which outlines a rough ring of habitat areas and wildlife corridors around the Planning Area.

The Zanja (known locally as the "Sankee") is a waterway which splinters to the southwest of Mill Creek's main channel north of the Crafton Hills, flowing through the heart of Redlands. In different reaches, the stream flows variously above and below ground, in concrete channels and along natural bottomed channels, and possesses varying vegetation, wildlife, and habitat values. Restoration of the Zanja along part or all of its length would be anticipated to improve its habitat values where it flows above ground. The Zanja joins with other drainages, finally flowing into the Santa Ana River west of the Planning Area. (See Section 8.40, Drainage and Flooding.)

Although comprehensive biological mapping for the Planning Area has not been prepared, GP Figure 7.2 and GP Table 7.3 show and define areas of identified valued habitat, wildlife corridors, and potential riparian restoration, as identified by the State Department of Fish and Game (DFG) and local environmental groups. General locations of special status species are also shown, where information was available. This figure is not intended to serve as a substitute for an onsite biotic resources inventory for specific development projects, but rather as a general reference suggesting the types of species and habitats which may be present.

Guiding Policies: Biotic Resources

7.21a Minimize disruption of wildlife and valued habitat throughout the Planning Area.

Ranging from "common" to a legal status of Endangered, Redlands' wildlife species and habitats are valuable biotic resources, among which are several species unique to the region. Implementing policies designed to achieve their continued viability are specified below.

7.21b Preserve, protect, and enhance natural communities of special status.

Eight natural communities of special status have been identified within the Planning Area (1995) and are shown on GP Figure 7.2. These include Riversidean Alluvial Fan Sage Scrub, Southern Coast Live Oak Riparian Forest, Southern Sycamore Alder Riparian Woodland,


0 2,000 4,000 FEET 2 MILES
Planning Area Boundary
Planning Area Boundary and City Limit
RAFSS
SSARW
SRS
SWS
SRF
SCLORF
SANTA ANA WASH
MILL CREEK
ZANJA
MISSION MOREY ARROYO
SAN TIMOTEO CANYON
LIVE OAK CANYON
CRAFTON HILLS
SAN BERNARDINO COUNTY
RIVERSIDE COUNTY
Contains Areas of Valued Habitat
Wildlife Corridor
Potential Riparian Restoration
RAFSS Natural Community*
Rare, Threatened, or Endangered Species*
Species of Special Status (approximate location)*
Species of Special Status (scattered throughout the area)*
This Figure is keyed to GP Table 7.3 which defines the symbols noted above with an asterisk. Also see MEA, Section 7, Biotic Resources for a detailed discussion of these species. Locations shown here are approximate and were not field checked.
SOURCES:
California Natural Diversity Database, 1995; Dept. of Fish and Game, 1995; various local individuals and environmental organizations (see MEA/EIR for list of persons contracted); City of Redlands Planning Dept., USGS.
Redlands Planning Area
GP Figure 7.2
Biotic Resources
SMITH, PERONI & FOX
BLAYNEY, DYETT, GREENBERG
ESRI

GP TABLE 7.3
RARE, THREATENED, OR ENDANGERED SPECIES and SPECIES OF SPECIAL STATUS WITHIN, ADJACENT TO, OR POSSIBLY PRESENT WITHIN THE PLANNING AREA[1]

Natural Communities

RAFSS	Riversidean Alluvial Fan Sage Scrub
SCLORF	Southern Coast Live Oak Riparian Forest
SRS	Southern Riparian Scrub
SSARW	Southern Sycamore Alder Riparian Woodland
SWS	Southern Willow Scrub
CLORF	Canyon Live Oak Ravine Forest
SRF	Southern Riparian Forest
SCWRF	Southern Cottonwood Willow Riparian Forest

Plants

Map ID 2	Nevin's Barberry
Map ID 3	Santa Ana River Wooly Star
Map ID 4	Slender-horned Spineflower
Map ID G	Payson's Jewelflower
Map ID J	Parish's Bush Mallow
Map ID K	Perry's Spineflower

Birds

Unknown	Black-shouldered Kite
Map ID A	California Gnatcatcher
Unknown	Western Yellow Billed Cuckoo
Map ID B	Cooper's Hawk
Unknown	Ferruginous Hawk
Map ID C	Golden Eagle
Map ID 1	Least Bell's Vireo
Unknown	Long-eared Owl
Map ID L	Loggerhead Shrike
Unknown	Prairie Falcon
Map ID I	Tri-colored Blackbird
Unknown	Willow Flycatcher
Unknown	Yellow-breasted chat

Mammals

Map ID D	Los Angeles Pocket Mouse
Map ID E	Merriam's Kangaroo Rat
Map ID 5	Stephen's Kangaroo Rat

Reptiles

Map ID F	Orange-throated Whiptail
Map ID H	San Diego Horned Lizard

[1] Species without Map ID numbers have no known specific location but have been seen within the Planning Area.

Southern Willow Scrub, Southern Riparian Scrub, Canyon Live Oak Ravine Forest, Southern Riparian Forest, and Southern Cottonwood Willow Riparian Forest. These communities are remnants of past vegetative complexes which were more widely distributed, and provide habitat to a number of native creatures.

7.21c Recognize the links between biotic resources in discrete locations throughout Redlands.

Although now divided by roadways and expanses of urban development, the remaining open space and undeveloped land within the Planning Area was once part of an interlinked regional ecosystem. The genetic flow between these areas persists, although at a greatly reduced level, and impacts on any portion of the system will affect the rest of the system. Environmental review for projects that will replace habitat with other uses should consider the impacts on seemingly remote sites as part of the cumulative impacts of a project, since study may show that remote sites are actually linked. The Master Biotic Management Plan is anticipated to document the ecosystem dynamics of the Planning Area.

7.21d Preserve, protect, and enhance wildlife corridors connecting the San Bernardino National Forest, Santa Ana River Wash, Crafton Hills, San Timoteo/Live Oak Canyons, the Badlands, and other open space areas.

Without corridors allowing movement between discrete habitat areas, it is likely that lack of genetic diversity over time would lead to the smaller, isolated habitat areas becoming devoid of wildlife, or inhabited by individual members of species in a weakened state with little potential for survival or adaptation. The maintenance and enhancement of these corridors includes implementation of undercrossings, as specified below in Policy 7.21j. General locations of known corridors are shown on GP Figure 7.2.

7.21e Preserve, restore, protect, and enhance riparian corridors throughout the Planning Area.

Riparian corridors not only serve as wildlife corridors, but also possess intrinsic habitat value and aesthetic appeal. Throughout California significant amounts of riparian vegetation have been lost to urbanization in the last century, although a move towards urban stream restoration is underway in the State, slowing the losses. Programs include liberating underground streams and vegetation plans, often coordinated with the provision of streamside trails. Grants are available through the Department of Water Resources' Urban Stream Restoration Program for projects which restore or enhance the aesthetic, recreational, fish, and wildlife values of waterways. Planning Area riparian corridor locations may be included in the Master Biotic Management Plan.

7.21f Where feasible, landscape public areas using native vegetation.

Native vegetation provides habitat for local species and tends to aid in water conservation, since native species are drought tolerant or resistant. Public areas include parkways, median strips, parks, and other City-owned or maintained green spaces. Revision of the City's Official Street Tree List is specified below, in Policy 7.21w.

Implementing Policies: Biotic Resources

7.21g Prepare a Master Biotic Management Plan, including an inventory of protected and common species, and species management plans, where relevant.

The General Plan specifies a general level of species protection based on available published information, and where habitats or locations have been mapped. The Plan and related MEA/EIR provide a point of departure for more detailed, area-specific studies, which could include site inventories and maps, and may require that consulting biologists perform further study to design management plans. Additional levels of detail could be provided specifying the hitherto unknown locations of protected and common species, wildlife corridors, riparian corridors and wetlands, and documenting the ecosystem dynamics of the Planning Area.

7.21h Require a biological assessment of any proposed project site where species or the habitat of species defined as sensitive or special status by the Department of Fish and Game or the U.S. Fish and Wildlife Service might be present.

Listings of sensitive and special status species change from year to year, but might include birds, animals, and plants such as the California Gnatcatcher, Least Bell's Vireo, San Diego Horned Lizard, Stephen's Kangaroo Rat, Nevin's Barberry, Parish's Bush Mallow and Payson's Jewelflower, among those special status species thought to be present within the Planning Area in 1991.

7.21i Require that proposed projects adjacent to, surrounding, or containing wetlands, riparian corridors, or wildlife corridors be subject to a site-specific analysis which will determine the appropriate size and configuration of a buffer zone.

The size and configuration of the buffer zone should be based on the characteristics and importance of the wetlands, riparian corridor, or wildlife corridor, and the proposed project, and determined in consultation with the Department of Fish and Game, U.S. Fish and Wildlife Service, and U.S. Army Corps of Engineers, as appropriate. The purpose of the buffer zone will be to ensure the long-term viability of the habitat area, and continued presence of wildlife.

7.21j Construct freeway and arterial street undercrossings where necessary after identification of and as a part of establishment and preservation of wildlife corridors.

To enable wildlife to move freely throughout the Planning Area, undercrossings beneath the freeway or major thoroughfares may be necessary. This is particularly evident between the Crafton Hills and San Timoteo/Live Oak canyons-Badlands area, which are separated by the I-10 Freeway. Undercrossings should be designed in consultation with biologists who understand the requirements of the species.

7.21k Enhance and restore the Zanja and tributary drainages as riparian corridors, where feasible, to provide habitat as well as recreational and aesthetic value.

The Zanja crosses the Planning Area in both underground and aboveground segments, with varying habitat value. Channel restoration with native vegetation would be expected to improve habitat.

7.21l Encourage the U.S. Army Corps of Engineers to design "soft" channel and sedimentation basins to provide habitat as well as recreational and aesthetic value.

A component of the Santa Ana Project is the construction of a 5-mile long concrete channel from San Timoteo Canyon to the Santa Ana Wash. An alternative natural channel would preserve existing wildlife corridors and provide linear parks. The natural channel also allows normal groundwater recharge.

7.21m Work with the Crafton Hills Conservancy to preserve, enhance, and maintain the Crafton Hills as an ecosystem.

Policy 8.50i within Section 8.50, Health and Safety Element, Geology, Seismicity, and Soils, specifies preservation of slopes greater than 30 percent as open space. The Conservancy is committed to habitat preservation in the Crafton Hills, as well as enhancement of open space and recreational values. The Crafton Hills may be an appropriate target for a vegetation management or enhancement program; the area contains remnants of past vegetative associations but is generally covered with introduced species. The cultivation of native species could enhance habitat value, and might decrease fire risk through the reduction of flammable grasses.

7.21n Coordinate open space and habitat preservation in San Timoteo and Live Oak canyons with Riverside County.

Although each is a cohesive geographic area unto itself, politically both San Timoteo and Live Oak canyons are bisected. Both canyons straddle the boundary between San Bernardino and Riverside counties. To achieve consistency in neighboring land uses, planning between the counties and the City of Redlands must be coordinated. Riverside County's Multiple Species Habitat Conservation Plan conceptually addresses the future of the area just to the south. The Badlands are proposed for inclusion in a reserve, which would stretch from the Riverside County - San Bernardino County border south to the San Jacinto Mountains. The proposed reserve includes upstream portions of San Timoteo Creek, which are identified as providing significant riparian habitats.

7.21o Coordinate with the City of Yucaipa on habitat preservation along Yucaipa Creek and in Live Oak Canyon throughout its length.

Live Oak Canyon contains special status Southern Coast Live Oak Riparian Forest, as well as other habitat values. The Yucaipa sewage treatment plant, upstream of Live Oak Canyon, is currently releasing treated wastewater into Yucaipa Creek, which contributes to the preservation of Live Oak Canyon's verdant habitat areas. There is some indication that Yucaipa may in the near future engage in a greater water recycling effort, and the San Bernardino Valley Municipal Water District notes that, if successful, this effort would be expected to diminish outflows through Live Oak and San Timoteo canyons. Reduced flows could have habitat impacts.

7.21p Work with the developers, biologists, and residents to implement the *Sunset Hills Deer Management Plan* in San Timoteo and Live Oak Canyon areas.

As a mitigation measure for approval of the Southeast Area Plan, preparation and implementation of a deer management plan was specified. The Sunset Hills Deer Management Plan was drafted to fulfill part of this requirement. Three conditions are described for retention of deer use within the Sunset Hills development: the Badlands deer population must persist into the indefinite future, deer must have suitable access to the area, and suitable deer habitat must be present within the development. These requirements suggest that the City should coordinate with Riverside County on land use within the Badlands, should identify and maintain wildlife corridors for deer movement, and should review development plans carefully to ensure that adequate open space within project areas is preserved.

7.21q Support the U.S. Army Corps of Engineers' efforts to establish a preserve for the Santa Ana River Wooly Star as mitigation for habitat anticipated to be lost as a result of construction of the Seven Oaks Dam, and work with concerned agencies and organizations to preserve the species in the Planning Area.

Construction of the Seven Oaks Dam is expected to reduce Wooly Star habitat, which is scattered throughout the Santa Ana River Wash. Environmental review documents prepared for the Seven Oaks Dam project identified several sites in the Wash north of Redlands that may be suitable for the establishment of a Wooly Star preserve. This silver-grey plant with its characteristic star-shaped flowers is unique to the area, and is considered Endangered by both the State and Federal governments.

7.21r Work with concerned agencies and organizations to preserve the Slender-horned Spineflower.

The Spineflower is considered a Federal and State Endangered Species, whose remaining known populations within the Planning Area are clustered around Orange Street north of Redlands, within the Santa Ana River Wash. According to the Scoping Project for the Santa Ana River Resource Management Plan (August 1988), there has never been a careful and thorough survey of the distribution of the Spineflower.

7.21s Coordinate aggregate resource extraction with habitat preservation and protection of plant and animal species.

Policy 7.42b specifies preparation and assured implementation of a rehabilitation plan for aggregate extraction as a condition of approval of mining. The rehabilitation plan should address protection of biotic resources.

7.21t Evaluate the habitat value of agricultural fields and groves prior to conversion to other uses; if habitat value is significant, consider a development plan which incorporates open space uses of similar value.

Although agricultural fields and groves are not "native" habitat, their structure and composition may mimic certain natural environments, some of which have been greatly reduced in area over the last century. A variety of displaced species thus forage or nest in these areas. For example, raptors, some of which are species of special status, are thought to hunt in agricultural fields, and Mule Deer and other mammals may browse in or pass through orchards.

7.21u Make information available to residents concerning the presence and condition of special status species.

Without a larger perspective, individuals may not understand that their actions can jeopardize the condition of a plant or animal species. For example, one of the greatest threats to the San Diego Horned Lizard -- a special status species known commonly as a "horned toad" -- is confinement by humans, benignly intending to keep the creature as a pet. A public information campaign could consist of informational handouts made available at City offices or through the County Museum.

7.21v Coordinate trails with preservation of habitat and protection of species sensitive to human intrusion.

Trails policies are specified in Section 7.11, and Policy 7.11m emphasizes a concern for preservation of natural vegetation and topography. The open space values which are attractive to trails users are often a result of the presence of wildlife and native vegetation, both of which may be sensitive to human disturbance. Planning for both values will ensure compatibility.

7.21w Expand the City's Official Street Tree List to incorporate native trees.

The current Official Street Tree List includes a number of species from the Eastern United States, Asia, South America, the Pacific Islands, and the Mediterranean. Only a few species, including the California Fan Palm, Knobcone Pine, and Modesto Ash are indigenous to the Western United States. As noted above in Policy 7.21f, native trees tend to tolerate drought, need less water than introduced species, and have a higher habitat value for native wildlife.

7.21x Explore opportunities to have nature displays along the Santa Ana River in conjunction with trails to provide environmental and habitat information.

7.22 Water Supply and Conservation

Entitlement to local water supplies includes surface water from Mill Creek and the Santa Ana River, and groundwater from wells throughout the Planning Area. As described in Section 8.20, contamination restricts the amount of groundwater available for potable use without treatment. Imported State Water Project (SWP) water is potentially available, although it is more costly than local sources and, as a regional political issue, is subject to continuing debate. Continued use of SWP Water will in time degrade water quality within the basin and create problems with wastewater discharge. The southeast portions of the City are served by Western Heights Water Company.

The long-term water supply for the City -- and for the region -- is not secured. An updated City of Redlands Water Master Plan will examine the long-term demand for, and availability of, local ground and surface waters and SWP supplies. Cumulative development in Southern California has far exceeded the availability of local water supplies, and has increased reliance on imported water. The availability of SWP water over the long-term depends in part on environmental and political variables which are not under the City of Redlands' direct control. Conservation and cooperation on a regional basis will be the key to the future quality of life.

In 1991, the fifth consecutive year of lower-than-normal rainfall in California, municipalities throughout the State implemented water conservation programs. Conservation measures, such as those described in Ordinance No. 2151, Water Conservation Plan, are intended to decrease consumption and allow existing water resources to go further. While many voluntary conservation measures depend on changes in individual behavior, larger organized efforts backed by investment -- such as construction of infrastructure to facilitate the use of reclaimed wastewater and non-potable water for irrigation of landscaping and agriculture -- can lead to substantial conservation of water resources.

Guiding Policy: Water Supply and Conservation

7.22a Minimize dependence on imported water by increasing entitlement in local surface sources, using wise groundwater management practices, conservation measures, and the use of reclaimed wastewater and nonpotable water for irrigation of landscaping and agriculture, where feasible.

The availability of imported State Water Project water over the long-term depends in part on environmental and political variables which are not under the City of Redlands' direct control. To ensure water service to all parts of the Planning Area, an emphasis must be placed on the use of local water supplies.

7.22b The City of Redlands overlies a portion of the Bunker Hill Groundwater Basin. This Basin contains in excess of 3 million acre feet of water. This local supply source must be cleaned up, used to its full potential, and protected from outside interests. This requires the cooperation of all agencies within the Basin.

7.22c The City of Redlands recognizes that the water sources that constitute the water supply of the City of Redlands are a limited and renewable resource subject to increasing demands; that the conservation and efficient use of urban water supplies are of statewide concern; but that planning for that use and the implementation of those plans can best be accomplished at the local level.

7.22d The City of Redlands believes it is in the best interest of its citizens to conserve the highest quality of water reasonably available to it for domestic use. Effort by its water users to achieve water conservation and efficient use of water will produce a sustainable lifestyle consistent with Redlands' unique heritage and community goals.

Implementing Policies: Water Supply and Conservation

7.22e Update the City of Redlands' Water Master Plan, including an assessment of regional demand and availability of water resources through buildout, and a comprehensive groundwater management program.

The City's 1981 Water Master Plan, updated in 1984, needs revision as a result of recent and planned population growth and development. The Water Master Plan assumed a population of about 80,000 in Redlands in the year 2000. Current 1995 City population is about 67,000. The Water Master Plan should include a component which studies groundwater issues and implements a comprehensive groundwater management program, as recommended by the Redlands 2000 report.

7.22f If the City's updated Water Master Plan shows water supply to be inadequate, increase supply and reduce demand or curtail development until adequate supplies are secured.

Priority would be given to increasing water supply and reducing water demand. Restrictions could be universal, with no new service connections throughout the Planning Area, or restrictions could be area-specific, to prevent costly infrastructure expansion and discourage growth in yet-unserved areas, until new supplies are developed.

7.22g Work with the Bear Valley Mutual Water Company, San Bernardino Valley Municipal Water District, and Western Heights Water Company to implement water conservation measures as specified in Redlands' Water Conservation Plan, Ordinance No. 2151.

An April 1991 resolution adopted by the San Bernardino Valley Municipal Water District (SBVMWD) requires Redlands and other District customers to establish and maintain a water conservation program as a prerequisite to continued use of State Water Project water. Redlands Water Conservation Plan, Ordinance No. 2151 was adopted pursuant to City's Urban Water Management Plan and State laws. The ordinance contains four stages of conservation, from voluntary conservation measures to different levels of mandatory compliance. The use of reclaimed wastewater is indirectly encouraged by exempting the use of reclaimed wastewater for golf course

irrigation from irrigation restrictions. The most extreme stage of the Water Conservation Plan prohibits the issuance of new service connections and meters.

7.22h Coordinate with the Western Heights Water Company, East Valley Resource Conservation District, and SBVMWD to educate the public and encourage participation in voluntary water conservation measures.

The availability of information and a sense of participation in a larger cooperative effort can lead to significant changes in individual behavior.

7.23 Energy Resources and Conservation

Utilities Facilities

Southern California Edison (SCE) Company provides electrical energy and the Southern California Gas (SCG) Company provides natural gas service to the Planning Area.

SCE Company. SCE is connected with an electrical energy network known as the "Pacific Intertie grid," allowing it to import electricity from anywhere in the Western United States, if needed. Within San Bernardino County, SCE operates several thermal (oil or gas-fired) generating stations, including the significant Etiwanda power plant, and, on the south side of the mountains, eight small hydroelectric power plants. The Etiwanda power plant represents approximately 10.5 percent of the total SCE generating capacity in the County, while the hydroelectric contribution is less than one percent of the total capacity.

Within the Planning Area or immediate vicinity, SCE operates one hydroelectric facility (Mill Creek No. 1), five substations (Redlands, Smiley, Mentone, Tennessee, Zanja), one steam plant (San Bernardino), several 220 kilovolt transmission lines (portions of the Devers-San Bernardino Nos. 1 and 2, San Bernardino-Vista, Etiwanda-San Bernardino, Devers-Vista Nos. 1 and 2), and the Redlands Service Center. The 220 kilovolt transmission lines run along the western edge of the Planning Area and through the southwestern corner, stretching south from the San Bernardino Steam Plant, then east of Mountain View Avenue, and turning southeast to parallel San Timoteo Canyon Road along the southern slopes of the Canyon. These facilities are shown on maps on file with the City of Redlands.

SCG Company. SCG serves the majority of the County, and all of the Planning Area. Natural gas -- not produced within the Redlands Planning Area -- is produced in small quantities in the Chino Hills, although it is primarily imported from elsewhere in California or from out of State.

High pressure gas lines (greater than 60 pounds) run along Mountain View Avenue on the western edge of the Planning Area, turning southeast at Mission Road. At California Street the lines jog north, continuing east and south along Orange Avenue to Tennessee Street, State Street, Eureka Street, Redlands Boulevard, Reservoir Road, Wabash Avenue, Panorama Drive, and entering Yucaipa along Hampton Road and Dunlap Boulevard. Another high pressure gas line stretches along Sand Canyon Road and Crafton Avenue. Smaller gas lines carried by pipelines ranging from three to eight inches in diameter are distributed throughout most of the Planning Area. These facilities are shown on maps on file with the City of Redlands.

Energy Conservation

Energy conservation may also be viewed as a potential energy resource, since the prudent use of energy will allow greater utilization of existing resources. Conservation might include such measures as reduced demand and reduction in wasted energy, recycling, and development of new forms of energy production.

Reduced demand and reduction in wasted energy. Reducing demand and reducing wasted energy might include residential, commercial, and industrial educational outreach programs designed to inform the consumer about options for energy conservation, and energy-efficient architectural design. Transportation-related measures which lead to energy conservation might include urban design and land use patterns which reduce trips, minimizing fossil fuel use, and Transportation Systems Management (TSM) and Transportation Demand Management (TDM) measures, as described in Section 5.

Recycling. Recycling is discussed in detail in Section 7.24, and in the Source Reduction and Recycling Element. Recycling resources saves energy, since the recycling process tends to use less energy than primary production of resources. This is true of all resource types, from the more commonly recycled items such as glass, paper, aluminum, and tin to fossil-fuel-based resources such as plastics and automobile-related waste oils.

New forms of energy production. Cogeneration, waste-to-energy conversion, and development of solar or wind energy may all be possible for portions of the Redlands Planning Area. Development of cogeneration and waste-to-energy conversion might be viewed as conservation measures, since they utilize waste products which would otherwise require an input of energy for disposal. Solar or wind energy may be viewed as potentially energy conservative since the resources are "free" and unlimited, compared to nonrenewable resources, which could then be conserved for energy production in the future.

Guiding Policies: Energy Resources and Conservation

7.23a Conserve scarce or nonrenewable energy resources.

Nonrenewable resources such as fossil fuels are considered scarce in the long term, since they are finite. Many conservation measures rely on voluntary individual behavior for implementation, although some measures have the support of governmental bodies. For example, State law requires the incorporation of energy conservation features in the design of all new site development and construction.

7.23b Support San Bernardino County in implementation of its energy-related policies.

County policies emphasize active participation in current and future energy provision and conservation.

7.23c Consider energy efficiency in architectural design.

A number of past environmental documents on portions of the Redlands Planning Area have additionally specified energy-reducing measures related to architectural design and project orientation. Among those documents which can be consulted for detailed recommendations are the Crafton Hills Planned Unit Development DEIR (1984), Redlands Southeast General Plan Amendment FEIR (1987), Tentative Tract 13294 DEIR (1988) and the East Valley Corridor Specific Plan FEIR (1988).

Implementing Policies: Energy Resources and Conservation

7.23d Coordinate with Southern California Edison Company and Southern California Gas Company to educate the public about the need to conserve scarce energy resources.

Residential, commercial, and industrial educational outreach programs can present consumers with options for energy conservation. Dissemination of information can have a significant impact in reducing consumption, as awareness by individuals and businesses leads to changes in behavior.

7.23e Minimize energy consumption attributable to transportation within the Planning Area.

Policies in Section 5, the Circulation Element, commit the City to Transportation Systems Management (TSM). When implemented, TSM measures are expected to minimize trips, thus minimizing Planning Area energy consumption attributable to transportation.

7.23f Revise applicable City Codes to incorporate criteria for energy efficient design.

7.23g The City shall implement and enforce Title 24 building standards to improve energy efficiency in new or substantially remodeled construction.

7.23h Encourage the investigation and utilization of alternative energy sources to be integrated in individual project designs.

7.24 Waste Management and Recycling

Due to concerns about the shrinking availability of landfill space, the State has passed legislation intended to address the problem at its source. Assembly Bill 939, the California Integrated Waste Management Act of 1989 and its amendments, requires every City and County in the State to prepare a Source Reduction and Recycling Element (SRRE) that identifies how the jurisdiction will meet the mandatory waste diversion goals set by the State of 25 percent by 1995 and 50 percent by 2000.

AB 939 and its amendments also requires every jurisdiction to develop a Household Hazardous Waste Element (HHWE) to plan for the proper management of hazardous wastes generated by households. The HHWE states that it is the City's objective to reduce the disposal of household hazardous waste in landfills through collection programs, landfill screening, and encouraging citizens to reduce the generation of such wastes, and promoting markets for household hazardous waste recycling.

The City of Redlands' SRRE and HHWE were developed in response to AB 939. The SRRE has been deemed adequate by the California Integrated Waste Management Board (CIWMB), and a final modification was made as required by the regulations to the 1990 waste stream data. However, due to changes in the regulations for solid waste management, the SRRE and HHWE can only be relied upon as guidance documents. As a result, the City is required to submit an annual status report to the State of programs and program performance.

Solid Waste

According to the SRRE, approximately 77,400 tons of waste was generated in the City of Redlands in 1990. Of these, 67,800 tons were disposed, and 9,600 tons were diverted, resulting in a diversion rate of 12.4 percent. The single largest component of the waste disposal stream is paper (42.4 percent) followed by other organics (23.3 percent), and yard waste (13.5 percent).

Almost all waste disposed by generators in the City is hauled by the City of Redlands Municipal Utilities Department, Solid Waste Division, as a public service. Two City annexation areas are serviced by private haulers. The City collected solid waste is disposed of at the California Street Landfill. Sources are 50 percent from residential, 42 percent from commercial, and eight percent from industry. A small amount of waste is hauled directly to County landfills by Planning Area residents and other entities.

The City has a curbside recycling program which provides pickup service of newspapers, aluminum cans, glass, cardboard and plastics, from approximately 16,000 homes. As of mid 1995, yard waste is collected from 2,100 homes. (This program is planned for expansion City wide.) In addition, the City has one drop-off center, three reverse vending machines, and a City wide office paper recycling program. There are a number of community sponsored activities also responsible for waste recycling. About 100 Redlands businesses participate in a City-sponsored office paper collection program, and cardboard recycling is provided for select businesses.

Redlands also has a residential curbside collection program for Christmas trees, which are composted. The City also provides support to residents for backyard composting, recycling of appliances, and free community clean-up days.

Hazardous Waste

Household hazardous waste frequently ends up in landfills that are not intended for receipt of hazardous materials. Such materials include such common items as motor oil, weed killers, household cleaners, wood preservatives, paints and paint thinner, auto and furniture polish, chemical drain cleaners, pesticides and fertilizers, and pool supplies. It is estimated that .7 percent of the City's total waste disposal stream (by weight) is comprised of household hazardous waste.

San Bernardino County has been providing services related to household hazardous waste management since 1984. These include the maintenance of permanent collection centers (one of which is in Redlands), periodic one-day collection events, a public education and outreach program, and a load-checking program at the area's County-owned landfills. The City intends to sign a Memorandum of Understanding with the County to cooperate with the administration of a Countywide Household Hazardous Waste management program in addition to the establishment of a City-operated permanent collection center. The City conducts screening at the California Street Landfill to reduce disposal of household hazardous waste at this site.

Other types of hazardous materials, such as pesticides or herbicides, may enter the environment indirectly. See Section 8.20, Water Quality, for a discussion of toxic chemicals accidentally introduced into the groundwater.

Guiding Policy: Waste Management and Recycling

7.24a Reduce the generation of solid waste, including household hazardous waste, and recycle those materials which are used, to slow the filling of local and regional landfills.

As of 1995 solid waste is hauled by the City to the California Street landfill. Planning Area residents also use the County's Solid Waste Disposal Facility (landfill) in San Timoteo Canyon.

Implementing Policy: Waste Management and Recycling

7.24b Implement measures specified in the Source Reduction and Recycling Element and the Household Hazardous Waste Element.

Adopted by City of Redlands in response to AB939 on August 2, 1994. Approved by the State on 1/25/95.

7.24c Meet the mandatory waste diversion goals set by the State of 25 percent by 1995 and 50 percent by 2,000; reduce landfill disposal of household hazardous waste as much as feasibly possible.

7.24d Examine alternatives for reuse of the California Street Landfill site after its closure.

As discussed in Section 7.10, a regional park might be one appropriate use of the site. To guarantee the safety of future site users, Policy 8.30d, Health and Safety Element, requires that methane gas monitoring will continue even after landfill closure. Near-term closure could be as early as mid-1998, although the City is considering expansion to the year 2000, and beyond to 2015. The San Timoteo Landfill has permitted refuse capacity to the year 2016.

7.30 Preservation of Archaeologic and Paleontologic Resources

Although archaeologic and paleontologic resources do not fall under the rubric of natural resources, they are protected under the California Environmental Quality Act as cultural resources. Many archaeologic and paleontologic finds will occur in remaining, unexcavated open space areas within and adjacent to the Planning Area, and this fact, together with the need for strategies for the conservation of these resources, places the discussion of these cultural resources here in the combined Open Space and Conservation Element. Historic resources are considered more fully in Section 3.

The Serrano and Gabrielino. Prior to the arrival of Spanish Europeans, the Redlands Planning Area is thought to have been populated for thousands of years by the Serrano and Gabrielino peoples. Although the precise details of their lives are shrouded in time, remnants of their lifeways indicate settlement and resource procurement locations at or adjacent to reliable water sources. Likely areas for finding artifacts include springs and streams such as San Timoteo Canyon Creek, Yucaipa Creek in Live Oak Canyon, tributaries and their canyons, and adjacent to larger water bodies, such as the bluffs, terraces, and hillsides above the Santa Ana River and Mill Creek.

The Zanja. At the instigation of Franciscan missionaries, in 1820 the Serrano and Gabrielino constructed a 12-mile-long irrigation ditch, connecting the fields surrounding the Gauchama Mission Station with Mill Creek, to the east. Water from this ditch was used for domestic purposes, as well as for irrigation of the first crops planted in the San Bernardino Valley. The ditch has had several names to include the Zanja and the Sankee. The Zanja is said to be the only irrigation ditch constructed and maintained by native peoples for their own use in California during the Spanish and Mexican periods of rule.

Archaeological survey. The California Archaeological Information Center (AIC), housed in the San Bernardino County Museum, estimates that less than 10 percent of the urban area has been surveyed for archaeological finds, and perhaps 25 percent of the rural portions of the Planning Area has been surveyed. Despite the lack of systematic survey, the locations of some resources are known, although to protect these resources, the precise locations of these sites are available to the public only on a restricted basis. To allow a quick visual scan of potentially sensitive areas, however, the City and the AIC have prepared an Archaeological Resource Sensitivity Map at a general scale.

Archaeological Resource Sensitivity map. This map was developed by the AIC in conjunction with the City of Redlands, and is reproduced in the MEA as MEA Figure 10.1. It is intended to be used to quickly determine whether or not an application for development is located within an archaeologically sensitive area, defined as an area which may contain artifacts or human remains below the earth's surface. When an application is received, City planners check the project location. Projects found to be within a sensitive area require that the staff notify the applicant and send copies of the application to the AIC. After review, the AIC will either determine that no further action by the applicant is necessary, or indicate that the applicant should hire an outside consultant to develop an archaeological resource mitigation plan.

MEA Figure 10.1 shows that most of the Santa Ana River Wash, Mill Creek, Crafton Hills, and San Timoteo and Live Oak canyons have been identified as rural historic and prehistoric archaeological districts. Rural historic is a designation oriented towards farming in the historic period. Resources found in this district may include orchards still standing, water ditches, barns, or residential and industrial buildings associated with farming activities. Pre-historic archaeological districts designate the pre-historic landscape and rural agricultural landscape that still survives. Because these areas have been insufficiently studied, archaeologists are uncertain what to expect. Historic areas and historic districts are discussed in more detail in Section 3.

Paleontologic resources are the fossil remains or traces of past life forms, including both vertebrate and invertebrate species, as well as plants. These resources are found in geologic strata conducive to their preservation, typically sedimentary formations. Paleontologic resources have been identified in San Timoteo Canyon.

Guiding Policy: Archaeologic and Paleontologic Resources

7.30a Protect archaeologic and paleontologic resources for their aesthetic, scientific, educational, and cultural values.

Additional policies on archaeologic resources are found in Section 3, City Design and Preservation.

Implementing Policies: Archaeologic and Paleontologic Resources

7.30b Using the Archaeological Resource Sensitivity Map, review proposed development projects to determine whether the site contains known prehistoric or historic cultural resources and/or to determine the potential for discovery of additional cultural resources; refer all applications affecting sensitive areas to the Archaeological Information Center for further study.

This map, compiled by the Archaeological Information Center, is on file with the City.

7.30c Require that applicants for projects identified by the Archaeological Information Center as potentially affecting sensitive resource sites hire a consulting archaeologist to develop an archaeologic resource mitigation plan; monitor the project to ensure that mitigation measures are implemented.

7.30d Require that areas found during construction to contain significant historic or prehistoric archaeologic artifacts be examined by a qualified consulting archaeologist or historian for appropriate protection and preservation.

The California Environmental Quality Act (CEQA) requires evaluation of any archaeological resource on the site of a development project. Unique resources, as defined by State law, should be protected, either by physical measures or by locating development away from the site. A preferred preservation method involves covering a site with earth fill for potential future, leisurely excavation; immediate excavation by qualified archaeologists may be undertaken if such protection is infeasible. If human remains are recovered, State law requires immediate notification of the County coroner, and cessation of work until the situation is resolved.

7.30e For projects involving Federal land, or requiring Federal permission or funding, ensure that applicants meet stricter criteria for archaeologic resource review, prior to commencement of work.

Projects involving the Federal government fall under a stricter set of review standards than those projects reviewed under CEQA. Federal-related projects include, for example, all drainage improvements in which the U.S. Army Corps of Engineers has an involvement.

7.30f Work with the San Bernardino County Museum to identify and protect Redlands' significant nonrenewable paleontologic resources.

The Museum has prepared paleontologic sensitivity maps for some portions of San Bernardino County.

7.40 Managed Production of Resources

Agricultural lands and lands containing construction aggregates are the two types of open space within the Planning Area to be preserved for the managed production of resources. Areas required for the recharge of groundwater basins are considered part of the flood plain, and policies on the preservation of these areas are found in Section 8.40, Health and Safety Element, Drainage and Flooding.

7.41 Agriculture

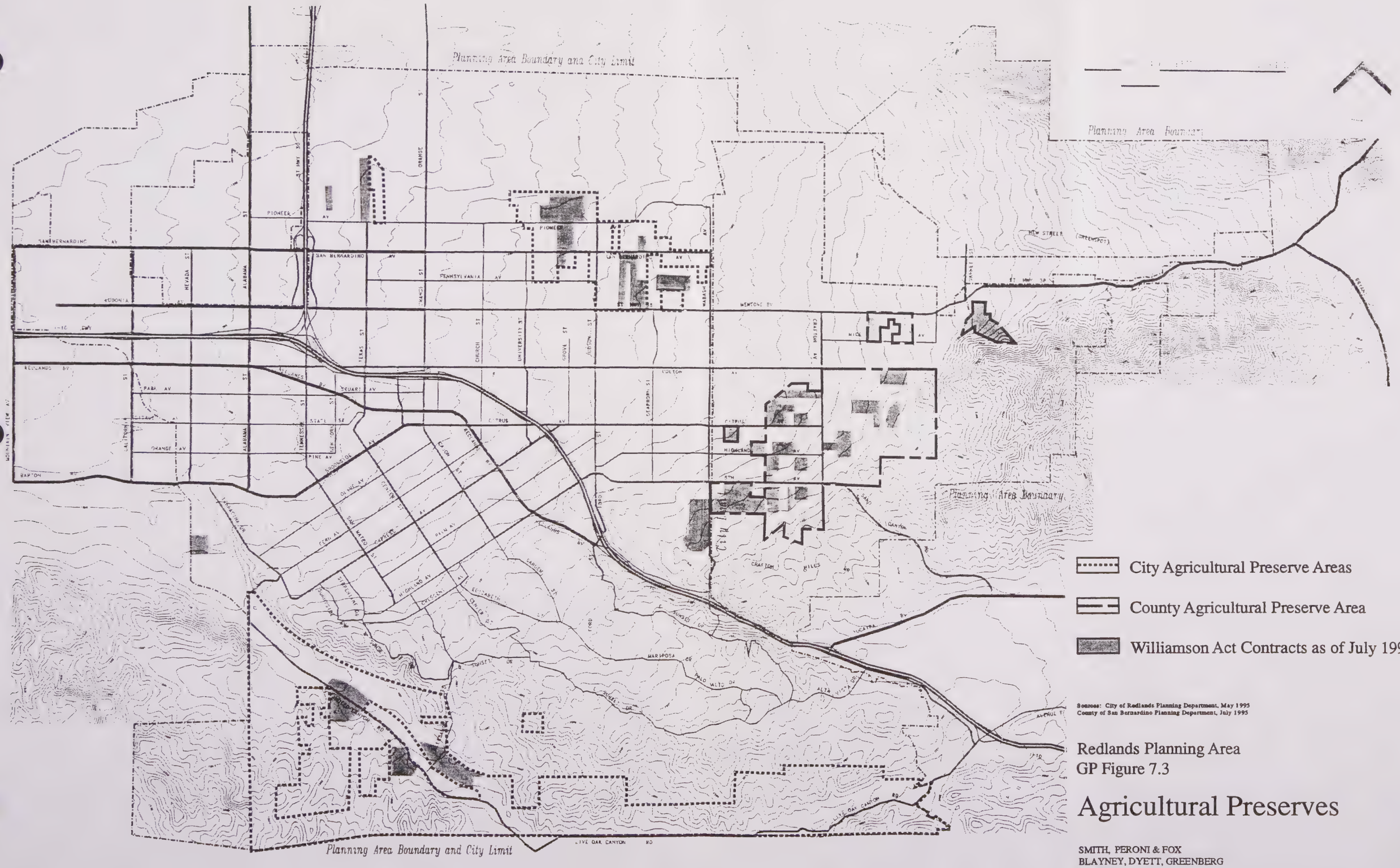
Citrus farming was Redlands' original economic base and remains a small, but not insignificant component of the economy. If any community is to retain its citrus heritage, it will be Redlands. Preservation will require a strong commitment, including the will to regulate and to acquire, because the spread between the land payment capability of citrus and urban development will continue to grow. Citrus income is attractive to an owner who is holding for subdivision, but does not provide a competitive return on investment if an alternative is sale for development.

Despite a two-thirds decline in acreage during the previous 30 years, 4,888 acres (16 percent of the Planning Area) remain in citrus. Other agriculture (other orchard crops, row crops, livestock, dairies, and Christmas tree farms) occupies 918 acres. With relatively low cost water supplied by mutual water companies, good productivity, and 90 percent of the fruit commanding premium prices for export to Asia, the Redlands citrus industry stabilized during the 1980s. However, a majority of the citrus acreage is owned by investors, both local and absentee, who must be presumed to be holding it for urban development.

Agricultural land uses within the Planning Area are concentrated in five areas, North-West Redlands (East Valley Corridor Specific Plan Area), West Redlands, San Timoteo Canyon, North Redlands (Redlands Municipal Airport Area), and North Mentone. In an effort to maintain and preserve the agricultural industry in the Redlands area the "Agricultural Preserve" concept was developed. Within Redlands there are two levels of this concept, the Agricultural Preserve designation between the City and property owner, whereby the City provides agricultural protection through zoning regulations using agricultural preserves (see GP Figure 7.3, Agricultural Preserves) and the more formal Williamson Act program. The lands under Williamson Act contract were originally designated in 1970. Under the Williamson Act Program land owners may enter 10-year contracts to maintain open use in exchange for taxation based on agricultural use rather than market value. Contracts renew automatically each year unless the owner or the public entity (City or County) serves notice of nonrenewal, in which case the land becomes available for development 10 years hence. As of May 1995, 24 parcels within the City totaling approximately 177 acres were under. Williamson Act Contract.

About 30 percent of the existing citrus is within the East Valley Corridor Area. The Specific Plan for this area calls for conversion of agricultural land for commercial and industrial development over a 40-year period. Most other citrus acreage in both the City and the County is zoned for agricultural use with a minimum parcel size of five acres.

In 1968, interested citizens involved the entire community in raising funds to purchase Prospect Park. Since then, a citizens committee of the Parks Commission has been appointed to manage the farming of the groves owned by the City. These groves are self-supporting and often profitable. Up to $1.8 million of the $7.2 million in open space bonds authorized in 1987 under Measure O is to be spent or has already been spent for citrus acquisition. Citrus groves currently owned by the City which are proposed to remain in citrus include the Prospect Park Grove (24 acres), Judson Grove (6 acres), Fifth Avenue Grove (13 acres), I-10/California Grove (5 acres), Texas Webster Grove (13 acres), Palmetto/Nevada Grove (16.7 acres), and Olive Avenue Grove (3.75 acres) and San Bernardino/Wabash Grove (10 acres).



Sources: City of Redlands Planning Department, May 1995
County of San Bernardino Planning Department, July 1995

Redlands Planning Area
GP Figure 7.3

Agricultural Preserves

SMITH, PERONI & FOX
BLAYNEY, DYETT, GREENBERG
ESRI

Guiding Policies: Agriculture

7.41a Retain the maximum feasible amount of agricultural open space for its contributions to the local economy, lifestyle, air quality, habitat value and sense of Redlands' heritage.

7.41b Provide for continued operation of existing livestock/dairy farms in areas of the San Timoteo/Live Oak Canyon planning sector designated Rural Living and Very Low Density on the General Plan Diagram.

7.41c Encourage retention or establishment of horse stables and riding academies in the San Timoteo/ Live Oak Canyon planning sector to meet the needs of the Planning Area's equestrians.

Implementing Policies: Agriculture

7.41d Employ zoning for agricultural use, City ownership, transfer of density, and zoning for rural living to maintain citrus and other croplands in production where designated on the General Plan Diagram.

Using PRDs, densities may be transferred within a parcel to preserve agricultural land. Where designated on the General Plan Diagram, viable citrus areas may be designated for preservation as a condition of development approval without reducing the number of housing units or the development to be built on the parcel.

Designated Rural Living areas in the Crafton, Live Oak Canyon, and Mentone planning sectors are primarily planted to citrus and are increasingly attractive as residential locations. At maximum densities of one housing unit per 2.5 or 5 acres, citriculture will remain viable.

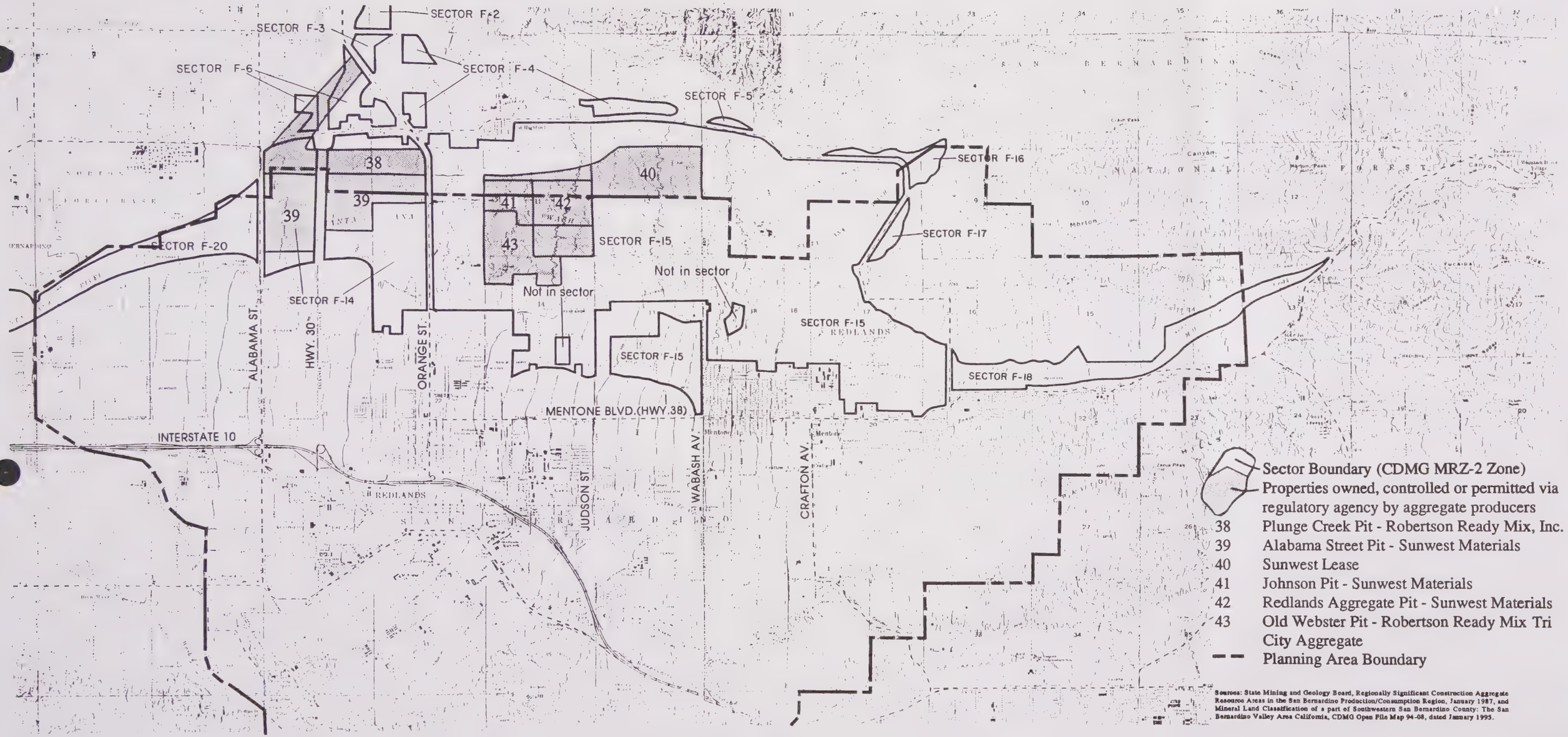
7.41e Encourage formation of a land trust to make the most efficient use of funds available for agricultural preservation.

Sale below appraised market value ("bargain sale") to a land trust that subsequently conveys the property to a public agency can provide attractive tax savings to a seller. Assistance in forming a land trust is available from the Trust for Public Land or similar organizations.

7.42 Construction Aggregates

The Santa Ana Wash adjoining Redlands contains high quality construction aggregates that have been mined since the 1920s. Urban preemption of prime deposits and conflicts between mining and other uses throughout California led to passage of the Surface Mining and Reclamation Act of 1975 (SMARA) which requires all cities and counties to incorporate in their General Plans the mapped designations approved by the State Mining and Geology Board.

Redlands is required by SMARA to adopt policies recognizing the importance of the identified mineral resources, clarifying the intent that this information is to be used when making land use decisions in areas designated to be of statewide or regional significance, and emphasizing the conservation and development of identified mineral deposits. Regionally significant aggregate resources within the Planning Area are shown on GP Figure 7.4.



Sources: State Mining and Geology Board, Regionally Significant Construction Aggregate Resource Areas in the San Bernardino Production/Consumption Region, January 1987, and Mineral Land Classification of a part of Southwestern San Bernardino County: The San Bernardino Valley Area California, CDMG Open File Map 94-08, dated January 1995.

Redlands Planning Area
GP Figure 7.4

Regionally Significant Construction Aggregate Resource Areas in the San Bernardino Production/Consumption Region

SMITH, PERONI & FOX
STEVEN C. SUITT AND ASSOC.
BLAYNEY, DYETT, GREENBERG
ESRI

Mining in the Santa Ana Wash is being done on both sides of the boundary between the cities of Redlands and Highland. New areas are currently being proposed for mining along the northern Planning Area boundary by Sunwest Materials and Robertsons Ready Mix. While approximately 90 percent of the land is owned by public agencies (Bureau of Land Management, San Bernardino County, City of Redlands, and San Bernardino Valley Water Conservation District), the land is leased to allow mining and (haul) roads.

In 1990 Redlands annexed the Sunwest Materials (formerly C.L. Pharris Sand and Gravel Company's Orange Street Aggregates) processing plant built two years earlier under permits issued by San Bernardino County. The annexed area also included the Old Webster Quarry which is being mined by Robertson Ready Mix under permits issued by the County of San Bernardino. Based on information presented in 1987, the California Division of Mines and Geology estimates 50-year aggregate needs in the San Bernardino Production-Consumption Region at 476 million tons vs. 10.45 billion tons potentially available as resources within the Santa Ana Wash area.

Guiding Policies: Construction Aggregates

7.42a Conserve sufficient aggregate resources to allow conversion of two 50-year supplies (approximately 2400 acres) of aggregate reserves to meet the Planning Area's contribution to future regional needs.

Because most of the Planning Area's Mineral Resource Zone (MRZ) designated under SMARA is in the Santa Ana Wash, it will not be subject to urban development. Redlands will be bearing more than a proportional share of the impacts of aggregate production given the location of mining and processing operations.

7.42b Manage aggregate resources to ensure that extraction results in the fewest environmental impacts. Require preparation and assured implementation of a reclamation plan for aggregate extraction sites as a condition of approval of mining.

Mining is traditionally a high impact industry that must adjust its operations to become an acceptable neighbor to urban areas. As noted in Policy 7.21s, the reclamation plan should address protection of biotic resources, as well as the inclusion of possible recreational uses.

7.42c Reserve designated MRZ areas outside the Santa Ana Wash for agricultural or urban use.

Although the State Mining and Geology Board revised the boundaries of some sectors in 1987 to delete urbanized area, substantial acreage south of the blufftop is designated.

Implementing Policies: Construction Aggregates

7.42d Clearly identify mineral resource areas, those areas targeted for conversion to reserves for possible future extraction, and areawide aggregate transportation routes. Policy 7.42c above indicates areas not suitable for future extraction.

Mineral resource zones (MRZs) targeted for conservation include most, but not all, of the Flood Control/Construction Aggregates Conservation/Habitat Preservation area in the Santa Ana Wash and Mill Creek Canyon as indicated on the General Plan Diagram. See Master Environmental Assessment (MEA) Figure 8.2 for precise boundaries of the MRZ within this area.

7.42e Apply zoning regulations to areas identified in Policy 7.42d allowing aggregate extraction as a conditional use and prohibiting incompatible land uses in Regionally Significant Construction Aggregate Resource Areas to be conserved. Zoning should cover sufficient area for two 50-year supplies of construction aggregate reserves and be reevaluated every 10 years per CDMG Guidelines.

This policy meets a requirement of SMARA.

7.42f Deny approval of surface mining permits at locations where unmitigated adverse impacts would be significantly greater than at alternative locations with the San Bernardino Production-Consumption Region.

7.42g Make issuance of a surface mining permit conditional upon approval of a reclamation plan and financial assurances for reclamation in accord with Public Resource Code Section 2770.

8.0 HEALTH AND SAFETY ELEMENT

REDLANDS GENERAL PLAN

8.0 HEALTH AND SAFETY ELEMENT

State law requires a Safety Element to outline policies which will protect residents' health, and protect the community from both natural and human-induced disasters. This Health and Safety Element considers air and water quality, fire hazards, drainage and flooding, seismicity, geology, soils, wind hazards, electromagnetic fields, airport/aviation safety, and emergency management. Information contained in the Master Environmental Assessment provides additional discussion on these issues.

8.10 Air Quality

Regional exceedances. The South Coast Air Basin (SCAB) is currently a nonattainment area for ozone (O_3), carbon monoxide (CO), fine particulate matter (PM_{10}) and nitrogen dioxide (NO_2). Of the federal and state standards exceeded in 1993 within the SCAB, the ozone standard was exceeded most often, followed by the CO and PM_{10} standards. The SCAB has the worst ozone air quality in the nation and is the only area designated as "extreme" nonattainment for ozone. PM_{10} levels in the SCAB are very high compared to most other areas.

In 1992, the SCAB recorded the greatest number of exceedances of the federal CO standard in the nation. The SCAB is currently designated as a serious nonattainment area for CO under the federal Clean Air Act and is required to implement emissions reduction measures as expeditiously as practicable to attain federal CO standards by December 31, 2000.

The SCAB is also the only area in nonattainment of the federal NO_2 standard. During 1993, the state NO_2 standard was only exceeded once in the SCAB and the federal standard was not exceeded. Sulfate, sulfur dioxide (SO_2), and lead concentrations were below both state and federal standards.

Over the past 30 years, ozone levels have been reduced by half in the SCAB and other criteria pollutant concentrations have significantly declined. The SO_2 and lead standards have been met in the SCAB, and for the first time in 1992, the federal annual NO_2 standard was not exceeded in the basin. Even with these improvements in air quality, the SCAB still experiences exceedances of health-based standards for ozone, nitrogen dioxide (1-hour), carbon monoxide and PM_{10}.

The air quality in San Bernardino County results from a unique combination of factors; air flow patterns and emission sources, both local and those located through the region, result in some of the worst air quality in the nation. San Bernardino County regularly exceeds State and federal air quality standards for Ozone (O3), and fine Particulate Matter (PM_{10}). Ozone exceedances are acute during summer months when onshore wind patterns transport pollutants from the western portion of the South Coast Air Basin, notably Los Angeles and Orange counties, that combine with emissions from local sources. San Bernardino County records the most severe violations of air quality standards for Ozone and PM_{10} compared to the rest of the South Coast Air Basin.

Local exceedances. The San Bernardino County portion of the South Coast Air Quality Management District (SCAQMD) is made up of portions both of the valley and mountains. These have been divided into seven air monitoring areas, for which the SCAQMD annually summarizes the air quality. Redlands is within the East San Bernardino Valley air monitoring area, and is grouped together with Yucaipa, and Loma Linda. Between 1975 and 1984, federal air quality standards were exceeded on an average of 115 days per year. Although ozone levels did not reach Stage II (unhealthful for everyone and bordering on hazardous air quality) or III (hazardous air quality) during this period, there were an average of 40 Stage I (unhealthful for everyone) episodes per year. More than 90 percent of these episodes occurred during June through October, between the hours of 3 p.m. and 7 p.m. The ozone measurement station is located in Redlands.

Recent trends indicate that the frequency of ozone Stage I episodes in Redlands has decreased compared to the number of episodes throughout the County of San Bernardino and the South coast Air Basin (SCAB). For example, there were 7 Stage I episode days in Redlands compared to 31 countywide and 43 throughout the Basin during 1992. During 1993, Stage I ozone episodes were called on 8 days in Redlands, 15 days throughout the county and 23 days in the SCAB. Maximum one-hour ozone levels measured in Redlands were very nearly the highest in the county and the basin. They reached 0.27 ppm in 1992 and 1993. The county maximum was 0.27 ppm in 1993 and 0.28 ppm in 1992. Maximum one-hour ozone levels measured throughout the SCAB were only slightly higher (0.28 ppm in 1993 and 0.30 ppm in 1992).

Regulatory framework. The federal Clean Air Act (CAA), promulgated in 1970 and amended twice thereafter (including the 1990 amendments), establishes the framework for modern air pollution control. The CAA directs the Environmental Protection Agency (EPA) to establish ambient air standards for six pollutants: Ozone, Carbon Monoxide, Lead, Nitrogen Dioxide, Particulate Matter and Sulphur Dioxide. The standards (National Ambient Air Quality Standards, or NAAQS) are divided into primary and secondary standards; the former are set to protect human health with an adequate margin of safety and the latter to protect environmental values such as plant and animal life.

The CAA requires states to submit a State Implementation Plan (SIP) for areas that exceed the NAAQS (nonattainment areas). The SIP, which is reviewed and approved by the EPA,must demonstrate how the federal standards will be achieved. Failure to submit a plan or secure approval of the plan by the EPA could lead to denial of federal funding and permits for such improvements as highway construction and sewage treatment plants. In cases where the SIP is submitted but fails to demonstrate achievement of the standards, the EPA is directed to prepare a Federal Implementation Plan. For example, EPA's recently released draft Federal Implementation Plan (FIP) for the South Coast, Ventura and Sacramento regions was prepared under court order to promulgate a plan to demonstrate compliance with the CCA's ozone and CO standards.

The November 1990 amendments to the federal Clean Air Act (CAA) were intended to intensify air pollution control efforts across the nation. The CAA identifies specific emission reduction goals, requires both a demonstration of reasonable further progress (an incremental reduction in emissions of relevant air pollutants needed to ensure attainment of the NAAQS by the applicable date) and an attainment demonstration, and incorporates more stringent sanctions for failure to attain or to meet interim milestones. The CAA requires the SCAQMD to develop: a Federal Attainment Plan for Ozone; a post-1996 rate-of-progress demonstration; an ozone attainment demonstration; a PM_{10} SIP which incorporates best available control measures (BACM) for fugitive sources; near-term (< year 2000) and long-term (> year 2000) transportation control measures and contingency measures (i.e., additional control measures which would be implemented in the event of a milestone or attainment failure).

The CAA classifies the Basin as an extreme nonattainment area and states that the Basin must achieve the federal ozone standard by November 15, 2010. The SCAQMD must demonstrate how the Basin will achieve VOC emission reductions of at least 3% per year averaged over each consecutive 3-year period beginning from November 15, 1996 and ending November 15, 2010.

In February 1993, EPS redesignated the SCAB and the Coachella Valley from moderate to serious nonattainment for PM_{10}. This was necessitated by the fact that the 1991 AQMP indicated that the implementation of reasonably available control measures (RACM) for fugitive dust would not ensure attainment of the PM_{10} NAAQS by the CAA deadline of December 31, 1994. Consequently, the SCAQMD is required to prepare and adopt a PM_{10} SIP for the SCAB and the Coachella Valley which incorporates best available control measures (BACM) for fugitive sources.

The California Clean Air Act (CCAA), which is generally more stringent than the federal CAA, was signed into law in 1988 and amended in 1992. The CCAA divides nonattainment areas into categories with progressively more stringent requirements, based on pollutant levels monitored therein. The SCAB is an extreme nonattainment area for ozone and a serious nonattainment area for CO and NO_2. PM_{10} is not currently addressed

in the CCAA. Serious and above attainment areas are required to revise their AQMP to include specified emission reduction strategies and to meet milestones in implementing emission controls and achieving better air quality.

The CCAA requires the establishment of indirect and area source controls to reduce vehicle miles traveled (VMT) and increase average vehicle ridership (AVR). It specifies the use of best available retrofit control technology for existing sources. The CCAA requires new source review to mitigate all emissions from new and modified permitted sources. It also requires consideration of transportation control measures (TCM's) and significant use of low-emission vehicles by fleet operators.

CAA requirements for control strategy development that are addressed in the 1994 AQMP include:

- Rate-of-progress requirements (reducing pollutants contributing to nonattainment by 5% per year or the maximum feasible);
- AVR requirement (Achieving an average vehicle ridership during peak commute hours of 1.5 persons/vehicle by 1999);
- Ensure no net increase in motor vehicle emissions after 1997;
- Substantial decrease in VMT growth and vehicle trips;
- Reduce per-capita population exposure to severe nonattainment pollutants (Ozone, CO and NO_2 for the SCAB) according to a prescribed schedule;
- Rank control measures by cost-effectiveness and implementation priority.

In addition to the six pollutants regulated by federal legislation, the California Clean Air Act establishes standards for Hydrogen Sulphide, Sulphates and Vinyl Chloride. Responsibility for achieving these standards (which are more stringent than federal standards) is placed on the California Air Resources Board (CARB) and local air pollution control districts. The Air Quality Management Plan (AQMP) is, in turn, incorporated into the SIP.

With the aim of complying with all state and federal ambient air quality standards by 2010, the South Coast Air Quality Management District (SCAQMD) and Southern California Association of Governments (SCAG) jointly prepared the 1994 Air Quality Management Plan (AQMP). The Plan calls for implementation of rules and regulations by the CARB, the SCAQMD, the Environmental Protection Agency and local jurisdictions.

The 1994 AQMP demonstrates attainment of the federal and state ambient air quality standards. It proposes to achieve the federal ozone and PM_{10} standards through long-term measures that emphasize a greater reduction of nitrogen oxides emissions from on-road and off-road sources than previous versions of the AQMP. The 1994 AQMP includes a 1990 emissions inventory and future emissions forecasts that reflect demographic and economic growth forecasts by SCAG.

The 1994 AQMP calls upon local governments to play an active role in reducing mobile source emissions through the implementation of specific actions. Control Measure FC-4 in the 1992 Carbon Monoxide Plan combines all transportation control measures (TCMs) developed by SCAG for local government implementation to reduce VMT and vehicle trips. Additional actions which local governments can implement to reduce mobile source emissions are described and quantified in the SCAQMD *Trip Reduction Ordinance Handbook.*

With 90 percent of local governments committed to implementing TCMs as of 1992, local efforts are currently having (and will continue to have) a profound impact on improving air quality in the region by reducing emissions from mobile sources and enhancing mobility by decreasing congestion levels. Appendix IV-C to the 1994 AQMP *Transportation Control and Indirect Source Measure Recommendations from the SCAG Regional*

Council details advanced transportation technology measures, transportation improvement measures, market incentives, indirect source controls and other programs intended to maximize emission reductions from mobile sources by integrating air quality, mobility and the economic development goals described in the Regional Comprehensive Plan.

The AQMP calls upon local governments to implement appropriate control measures contained in the AQMP. Several measures direct each local government to adopt an Air Quality Element or its equivalent as part of its General Plan. If all of the applicable control measures are not implemented, the air quality standards cannot be achieved. In this event, the existing moratorium on location of stationary sources in the Basin will be continued and federal funding and other permits may be denied until the standards are met.

San Bernardino County has drafted a Model Air Quality Element. Since the air quality problem is larger than any one jurisdiction, the Model Element includes goals, policies, and programs which have been accepted by the fifteen cities in the San Bernardino County portion of the South Coast Air Basin, and which contain consensus goals, policies and programs intended to provide a common foundation for coordinated action. This air quality section has been adapted from the Model Air Quality Element, and will thus be consistent with air quality policy for the County and all participating jurisdictions. For further detail on air quality within the County, the AQMP may be consulted.

Guiding Policies: Air Quality

8.10a Achieve economic growth in such a way that good air quality can be achieved and maintained.

Good air quality is air quality which meets State and federal standards.

8.10b Achieve necessary air-quality-related lifestyle and economic changes through market incentives where feasible and through regulatory measures where necessary.

8.11 Air Quality and Jurisdictional Responsibility and Roles

Guiding Policies: Air Quality and Jurisdictional Responsibility and Roles

8.11a Support the County in its efforts to coordinate air quality improvements in the portion of the South Coast Air Basin within the County and in its efforts to coordinate improvements in air quality through reductions in pollutants from Orange and Los Angeles counties.

8.11b Coordinate with other jurisdictions in San Bernardino County to establish and integrate parallel or related air quality plans, implementation programs, and monitoring and reporting.

8.11c Cooperate with the County's establishment of an ongoing air quality implementation and project referral process within the San Bernardino County portion of the South Coast Air Basin, adapting it as necessary to the City's circumstances, resources and procedures.

8.11d Support the County in its efforts to cooperate actively with Los Angeles, Orange and Riverside counties to comprehensively improve air quality at the emission source, and cooperate with these jurisdictions directly, where possible.

8.11e Involve environmental groups, the business community, special interests and the general public in the formulation and implementation of programs which effectively reduce airborne pollutants.

8.11f Advocate and support innovative strategies to improve air quality.

Implementing Policies: Air Quality and Jurisdictional Responsibility and Roles

8.11g Participate with SANBAG in defining and implementing the Congestion Management Program (CMP) for San Bernardino County to ensure appropriate coordination with air quality planning.

See related policies and discussion within Section 5, Circulation Element.

8.11h Coordinate with and cooperate with the implementation/monitoring system devised as part of the County Air Quality Plan, and integrate any City-level monitoring and reporting programs with monitoring and reporting required for the County Air Quality Plan.

8.11i Jointly establish a communication network with key elected officials and staff involved in air quality planning in Los Angeles, Orange and Riverside counties as the basis for identifying and implementing parallel measures of mutual benefit.

8.11j Design and conduct efforts to involve the public and affected/interested parties in the adoption of local air quality plans and implementation of air quality improvement programs.

Measures identified in the Regional Air Quality Plan to implement this program include:

- *conduct public forums;*
- *establish communication and education programs;*
- *make written briefs available locally;*
- *conduct Planning Commission/City Council public workshops; and*
- *utilize a variety of media forms to maximize citizen involvement.*

8.11k Support new approaches to improving air quality through supporting legislation, cooperating with regional bodies, establishing pilot programs, and funding and/or participating in private/public partnerships.

8.12 Air Quality and Ground Transportation

Guiding Policies: Air Quality and Ground Transportation

8.12a Aim for a diverse and efficiently operated ground transportation system which generates the minimum feasible pollutants.

8.12b Reduce vehicle miles traveled and peak period auto travel by increasing average vehicle ridership during peak commute hours.

See related policies within Section 5, Circulation Element.

8.12c Cooperate in efforts to expand bus, rail and other forms of mass transit in the portion of the South Coast Air Basin within San Bernardino County.

8.12d Promote expansion of all forms of mass transit in the urbanized portions of San Bernardino, Orange, Los Angeles and Riverside counties.

8.12e Support public transit providers in efforts to increase funding for transit improvements to supplement other means of travel.

8.12f Jointly support efforts to establish a regionwide bus pass.

8.12g Promote non-motorized transportation.

See related policies within Section 5, Circulation, and trails policies within Section 7.10, Open Space and Conservation Element.

8.12h Promote a regional approach in utilizing parking costs as a means to discourage low vehicle occupancy.

8.12i Aim for a pattern of land uses which can be efficiently served by a diversified transportation system and land development projects which directly and indirectly generate the minimum feasible air pollutants.

8.12j Integrate air quality planning with the land use and transportation process.

Implementing Policies: Air Quality and Ground Transportation

8.12k Establish and implement a Transportation Demand Management (TDM) Program.

See related policies within Section 5, Circulation Element.

8.12l Define and implement auto limitation procedures in selected areas and at selected times, provided that alternative transportation modes are available.

8.12m Establish incentives and regulations to eliminate work trips.

8.12n Use incentives, regulations and Transportation Demand Management (TDM) in cooperation with other jurisdictions in the South Coast Air Basin to eliminate vehicle trips which would otherwise be made, and to reduce the vehicle miles traveled for auto trips which still need to be made.

8.12o Establish and maintain telecommunications strategies to reduce the length of auto trips.

8.12p Promote and establish modified work schedules which reduce peak period auto travel.

8.12q Establish incentives and regulations to spread work trips over a longer period to reduce peak period congestion.

8.12r Participate in efforts to achieve increased designation, construction, and operation of HOV lanes on freeways in Los Angeles, Orange, Riverside and San Bernardino counties.

8.12s Jointly, through the County, SANBAG, and SCAG, participate with adjacent counties in expanding HOV lanes on the freeway system within those counties.

8.12t Coordinate overlapping components of the State-mandated Congestion Management Program and the Regional Air Quality Plan.

8.12u Promote market-based incentives and disincentives to relieve peak hour/peak direction congestion within highly congested travel corridors.

8.12v Cooperatively initiate a pilot program to explore jointly with Los Angeles, Orange and Riverside counties, methods and workability of Congestion Fees for peak hour/peak direction use to be levied within highly congested travel corridors, particularly those which generate emissions transported to San Bernardino County.

8.12w Participate with public transit providers serving San Bernardino County in a cooperative program to increase transit services with existing equipment and expand services through transit facility improvements.

8.12x Coordinate with public transit providers to increase funding for transit improvements to supplement other means of travel.

8.12y Plan for intraregional commuter and main line rail service development including convenience facilities at rail stops.

See related policies in Section 5, Circulation Element.

8.12z Develop design standards that promote access to transit facilities.

8.12aa Influence the expansion of intraregional commuter and main line rail services, particularly those linking with destinations in San Bernardino County.

8.12bb Provide bicycle and pedestrian pathways to encourage non-motorized trips.

See related policies in Section 5, Circulation Element.

8.12cc Develop standards and guidelines for support facilities to incorporate into development plans for increased bicycle and pedestrian routes to link appropriate activity centers to nearby residential development.

8.12dd Manage parking supply to discourage auto use, while ensuring that economic development goals will not be sacrificed.

Modification of parking provisions and development of management strategies shall be done in conjunction with regional efforts so that there is not a competitive disadvantage suffered by the Redlands Planning Area.

8.12ee Establish short and long-term parking management strategies at governmental and private facilities in ways that discourage single-occupancy vehicle usage and reward high vehicle occupancy rates without placing the Redlands Planning Area at a competitive disadvantage.

Modification of parking provisions and development of management strategies shall be done in conjunction with regional efforts so that there is not a competitive disadvantage suffered by the Redlands Planning Area.

8.12ff Establish parking management strategies for governmental and private facilities in ways that discourage single-occupancy vehicle usage and reward high vehicle occupancy rates without placing the Redlands Planning Area at an economic disadvantage in enticing jobs.

Modification of parking provisions and development of management strategies shall be done in conjunction with regional efforts so that there is not a competitive disadvantage suffered by the Redlands Planning Area.

8.12gg Promote State and federal legislation which would improve vehicle/transportation technology and which would establish differential pricing mechanisms to assess the true cost of emissions.

8.12hh Support legislation to stimulate the development of practical electric vehicles.

8.12ii Support State legislation which would establish emission fees on gasoline products and differential registration fees on motor vehicles according to the emission levels that they are designed to produce; include exploration of an option that imposes pollution fees on individual vehicles at time of mandated smog inspections, based on actual vehicle performance.

8.12jj Support legislation which tightens the existing vehicle inspection program, both in terms of standards to be met and requirements for compliance.

8.12kk Invest in and institute clean fuel systems on new local government fleet vehicles.

8.12ll Promote the development of Park-and-Ride lots.

8.13 Air Quality and Air Transportation

Guiding Policy: Air Quality and Air Transportation

8.13a Support a goal of minimum feasible emissions from all air carrier airports within the region, and identify the Norton Air Force Base reuse impact.

Implementing Policies: Air Quality and Air Transportation

8.13b Promote requiring the best available technology to reduce emissions in aircraft fleet.

8.13c Urge establishment of the best available technology and operational measures for aircraft and ground service vehicles.

8.13d Support phasing out of Stage II aircraft and the earliest possible transition to Stage III aircraft for operation within the Air Basin.

8.13e Promote installation of centralized ground power systems at existing air carrier airports.

8.13f Urge establishment of requirements for centralized ground power systems to be installed and used as soon as practicable at existing air carrier airports.

8.13g Promote conditioning of approval of air carrier airports upon inclusion of plans for improved ground access.

8.13h Urge establishment of an ordinance requiring air carrier airport operators to obtain permits based on approved plans for trip reduction, facility design and access improvements.

8.14 Air Quality and Land Use

Guiding Policy: Air Quality and Land Use

8.14a Support a regional approach to regulating the location and design of land uses which are especially sensitive to air pollution.

Implementing Policies: Air Quality and Land Use

8.14b Manage growth by ensuring the timely provision of infrastructure to serve new development.

8.14c Incorporate phasing policies and requirements in general plans and development plans to achieve timely provision of infrastructure (particularly transportation facilities) to serve development.

8.14d Improve the balance between jobs and housing in order to create a more efficient urban form.

8.14e Improve jobs/housing balance through new development and redevelopment project reviews and actions.

8.14f Improve jobs/housing balance at a subregional level in relation to major activity centers as new development occurs.

8.14g Support incentive-oriented tax credits; loan programs; small business development programs; and complementary land use policies, all aimed at improving the jobs/housing balance in the western San Bernardino/eastern Los Angeles counties area.

8.14h Develop and adopt an agreement among the participating jurisdictions as to mutually acceptable approaches to improve and maintain jobs/housing balance.

8.14i Participate with the SCAQMD in jointly formulating appropriate standards for regulating the location and protection of sensitive receptors (schools, day care facilities, hospitals and the like) from excessive and hazardous emissions.

8.14j Locate and design new development in a manner that will minimize direct and indirect emission of air contaminants.

8.14k Support and encourage the maximum use of plants and trees to provide oxygen enrichment through the photosynthesis process.

8.15 Air Quality and Particulates

Guiding Policies: Air Quality and Particulates

8.15a Aim for the minimum practicable particulate emissions from the construction and operation of roads and buildings.

8.15b Reduce particulate emissions from roads, parking lots, construction sites, mining operations and agricultural lands.

8.15c Reduce emissions from building materials and methods which generate excessive pollutants.

Implementing Policies: Air Quality and Particulates

8.15d Adopt incentives, regulations and procedures to manage paved roads so they produce the minimum practicable level of particulates.

8.15e Adopt incentives, regulations and procedures to minimize particulate emissions during grading, and road, parking lot, and building construction.

8.15f Adopt incentives, regulations and procedures to control particulate emissions from unpaved roads, drives, vehicle maneuvering areas, parking lots, and disturbed land that is not developed.

8.15g Adopt incentives, regulations and procedures to limit dust from agricultural lands and operations.

8.15h Adopt incentives, regulations and procedures to prohibit the use of building materials and methods which generate excessive pollutants.

8.16 Air Quality and Energy Use

Guiding Policies: Air Quality and Energy Use

8.16a Aim for reduced emissions through reduced energy consumption.

8.16b Reduce energy consumption through conservation improvements and requirements.

See related policies within Section 7.23, Open Space and Conservation Element, Energy Resources and Conservation.

8.16c Reduce water heating emissions resulting from swimming pool heaters and residential and commercial water heaters.

8.16d Promote local recycling of wastes and use of recycled materials.

See related policies within Section 7.24 Open Space and Conservation Element, Waste Management and Recycling.

Implementing Policies: Air Quality and Energy Use

8.16e Implement plans and programs to phase in energy conservation improvements through the annual budget process.

8.16f Adopt incentives and regulations to enact energy conservation requirements for private development. Residential Development Allocations (RDAs) provide points for energy conservation efforts.

8.16g Adopt incentives and regulations to reduce emissions from swimming pool heaters.

8.16h Adopt incentives and regulations to reduce emissions from residential and commercial water heating.

8.16i Implement provisions of AB 939 and adopt incentives, regulations and procedures to specify local recycling requirements.

See related policies in Section 7.24, Open Space and Conservation Element, Waste Management and Recycling and policies within the Source Reduction and Recycling Element.

8.20 Water Quality

Groundwater contamination poses some serious problems. It is estimated that 28% (11 out of 40) of the City's wells are contaminated by agricultural nitrates and must be considered non-potable without costly treatment. A groundwater plume with high levels of toxic industrial organic solvents (trichloroethylene, or TCE) has been tracked moving across the Planning Area, from east to west toward the Santa Ana River, also rendering some wells non-potable. The Regional Water Quality Control Board (RWQCB) has confirmed the presence of DBCP (dibromochloropropane) in trace amounts in all major city pumping areas. This chemical was applied to citrus groves until banned by the Environmental Protection Agency (EPA) in 1979.

Water supply is intimately tied to water quality, since adequate uncontaminated flows significantly mitigate the presence of contaminated flows, through dilution, flushing, and general availability of alternate sources. Water supply is a regional issue, and is discussed further in Section 7.22, Water Supply and Conservation. The construction of the Seven Oaks Dam on the Santa Ana River, combined with the proposed conservation pool and water rights appropriation by the San Bernardino Valley Municipal Water District (SBVMWD) has the potential to dramatically alter the natural recharge and groundwater scouring actions within the basin. Please refer to Section 6.0, of the MEA, and Section 7.0, of the EIR for further information on water quality.

Guiding Policies: Water Quality

8.20a Work with the local and regional water agencies to improve and enhance groundwater quality in the region.

The RWQCB's Water Quality Control Plan: Santa Ana River Basin, 1984, with amendments through 1994, specifies regional water quality objectives and implementation measures.

8.20b Oppose approval of development projects within the Planning Area that would rely on package wastewater treatment plants.

City of Redlands wastewater treatment capacity can be expanded to serve the Planning Area at buildout. Separate, smaller package plants typically are more difficult to maintain and operate at comparable standards and may pose a threat to groundwater quality. Expansion to the Redlands sewage treatment plant in 1994 provided capacity for 15 years of growth at 100 gallons per capita per day. Rapid development in the East Valley Corridor could require further expansion before then.

8.20c Where feasible given flood control requirements, maintain the natural condition of waterways and flood plains to ensure adequate groundwater recharge and water quality.

This policy is a restatement of a part of Policy 8.40d in Section 8.40, Drainage and Flooding. An increase in impervious surfaces works to diminish percolation of water into the aquifer. The flushing action of adequate flows is necessary to preserve water quality. Preservation of soft or natural-bottom channels aids in percolation and recharge, maintaining water quality. See also Policy 7.21l, Open Space and Conservation Element

8.20d The City of Redlands shall give priority to providing its citizens the highest quality water for domestic use as is reasonably available to it.

8.20e The City of Redlands shall give priority to utilizing the surface water of Miil Creek, which is the highest quality water presently available to it.

8.20f The City will give the next higher priority to utilizing the surface water of the Santa Ana River available to it through stock ownership rights or other rights.

8.20g In the event the supply from local surface water sources is insufficient to meet demand, the City will also use local groundwater sources of good quality.

8.20h State Water Project water shall be considered, to the extent possible, as supplemental water, and shall be utilized only as necessary to meet demand.

8.20i The City will actively protect all water supply sources, to the extent legally possible, from contamination and from a diminution of supply, will undertake all necessary steps to provide a secure supply of high quality water to meet the present and future needs of its citizens.

The Citizens of Redlands rely upon the City to provide them with safe, reliable, high quality water for domestic use. Redlands' water supply is derived from several different sources of varying quality. Increasingly stringent water quality standards are promulgated by state and federal regulatory agencies for drinking water, and there is some uncertainty whether existing water treatment technology alone can remove contaminants sufficiently to meet such standards. Because technology alone may not be sufficient to ensure high quality drinking water, Redlands must endeavor to use the highest quality uncontaminated sources of water available to it, and must protect such sources from contamination. The City Council of the City of Redlands believes it is in the best interest of its citizens to provide the highest quality water reasonably available to it for domestic use by its water users. It is also necessary to ensure a dependable water supply for the City from many sources, to prevent shortages, caused by adequate outages, unexpected contamination, droughts, or emergencies.

Implementing Policies: Water Quality

8.20j Participate in the ongoing regional response to EPA's stormwater permit regulations.

Stormwater permit regulations will require the use of best management practices by all jurisdictions in the maintenance of the quality of stormwater runoff. Participation involves attendance at meetings and implementation of practices beneficial to participating jurisdictions.

8.20k Require industrial water users to pretreat wastewater onsite prior to discharging into the sewer system, in accordance with Redlands' industrial wastewater pretreatment ordinance.

Ordinance No. 2268 requires wastewater pretreatment, meaning the reduction of the amount of pollutants, the eliminating of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging these pollutants into the City wastewater facility or public sewer. While pretreatment may not be necessary for all industrial uses, it is, in some cases, critical for water quality preservation.

8.20l As landfills close, continue groundwater monitoring to detect leaks into the aquifer.

Current testing does not indicate that the presence of toxic substances exceeds regulatory levels. However, there is growing concern that once-active landfills throughout the State may have historically contaminated groundwater and, without ongoing monitoring, may continue to do so. The Church Street burnsite has been closed since 1986, the California Street landfill has a current, 1995, capacity to remain in operation until approximately 1998, however the City Council has

directed staff to pursue an analysis of expanding this landfill facility, and the San Timoteo Canyon landfill is expected to close by 2016, unless expanded.

8.20m Require that applicants take soil samples prior to grading or construction in existing or past orchard or other agricultural areas which were treated historically with toxic chemicals such as DBCP. If contamination is discovered, prior to development consult with the appropriate agencies for proper clean-up measures.

The Regional Water Quality Control Board, State Department of Health Services, or U.S. Environmental Protection Agency can provide information or referrals on clean-up measures.

8.20n Construct treatment plants or systems to treat contaminated groundwater as necessary to ensure availability of potable groundwater.

The Texas Street treatment plant, at the corner of Texas Street and Pennsylvania Avenue, is designed to treat 8.6 million gallons of contaminated groundwater daily. In Addition, the Rees Well Water Treatment Plant near Judson and Pennsylvania is designed to treat 3 million gallons of contaminated groundwater daily.

8.20o Design projects to minimize the possibility of wind or water erosion and, where necessary, require preparation and implementation of a soil erosion plan, including soil erosion mitigation during construction.

Thoughtful construction practices can minimize erosion. Measures might include removing the surface cover from the soil only when construction is ready to begin, uncovering soil only at the construction sites, avoid grading during the wet season, covering stockpiles of soil, and erecting berms, barriers, or temporary settling ponds to direct runoff away from cleared areas and trap sediments before they enter surface waters. See also Policy 8.50l.

8.20p The City of Redlands will coordinate with the Regional Water Quality Control Board in developing a system of efficient and accurate well monitoring facilities to ensure early detection of ground water contamination.

8.30 Fire Hazards

Due to a combination of topography, weather, and fuel and exacerbated by potentially high winds and limited access, portions of the Planning Area have been evaluated as being highly susceptible to wildland fire hazards. The slopes of San Timoteo and Live Oak canyons, the Badlands to the south, and the Crafton Hills to the east of the Planning Area are not only difficult for firefighters and equipment to reach, but their steepness and configuration can aid in the rapid upslope spread of fire.

Limited rainfall, low humidity, and seasonal high temperatures contribute to the desiccation of the grasses and chaparral which cover the foothills, providing prime fuel for intense burns. Although some of the canyons are shielded from the direct impact of the powerful, dry Santa Ana winds, their presence generally aggravates the fire hazard. (See Section 8.60 on Wind Hazards.) In addition, the presence of human activities in or near a wildland area dramatically increases the risk of a major fire due to careless smokers, illegal campfires, and other related risks.

The City of Redlands is served by the Redlands Fire Department, and unincorporated portions of the Planning Area are served by the California Department of Forestry and Fire Protection (CDFFP), as contracted by the County of San Bernardino and headed by the County Fire Warden. Adjacent National Forest lands are served by the U.S. Forest Service. Policies emphasize structural fire prevention measures for use throughout the Planning Area, as recommended by the Redlands Fire Department, and as specified in a 1983 document prepared

as part of the Foothill Communities Protective Greenbelt Program (FCPGP). The FCPGP was a multijurisdictional effort involving participants from over a dozen agencies, and identification of foothills areas which are subject to increased fire, flood, and erosion risks. A small portion of the at-risk area overlaps with the Redlands Planning Area, including the Santa Ana River Wash and the proposed Sunrise Ranch (Greenspot) development.

Guiding Policy: Fire Hazards

8.30a Work to prevent wildland and urban fire, and protect lives, property, and watershed from fire dangers.

Implementing Policies: Fire Hazards

8.30b Adhere to the requirements for high fire hazard areas designated by the Redlands Fire Department on the official Roof Classification Zone Map, updated as of June, 1994, and as specified in the document on file at the Redlands Fire Department describing High Fire Hazard Area Fire Safety Modification Zones.

GP Figure 8.1, Conceptual Fire Hazard Areas, is based on the Official Roof Classification Zone Map, which outlines areas within the City that have roofing material restrictions. Requirements include widths and lengths of cul-de-sacs and access streets, distances between turnouts, construction on slopes, buffers, setbacks, and more. GP Figure 8.1 shows high fire hazard areas that have been identified within the Planning Area.

8.30c Monitor fire-flow capability throughout the Planning Area, and improve water availability if any locations have flows considered inadequate for fire protection.

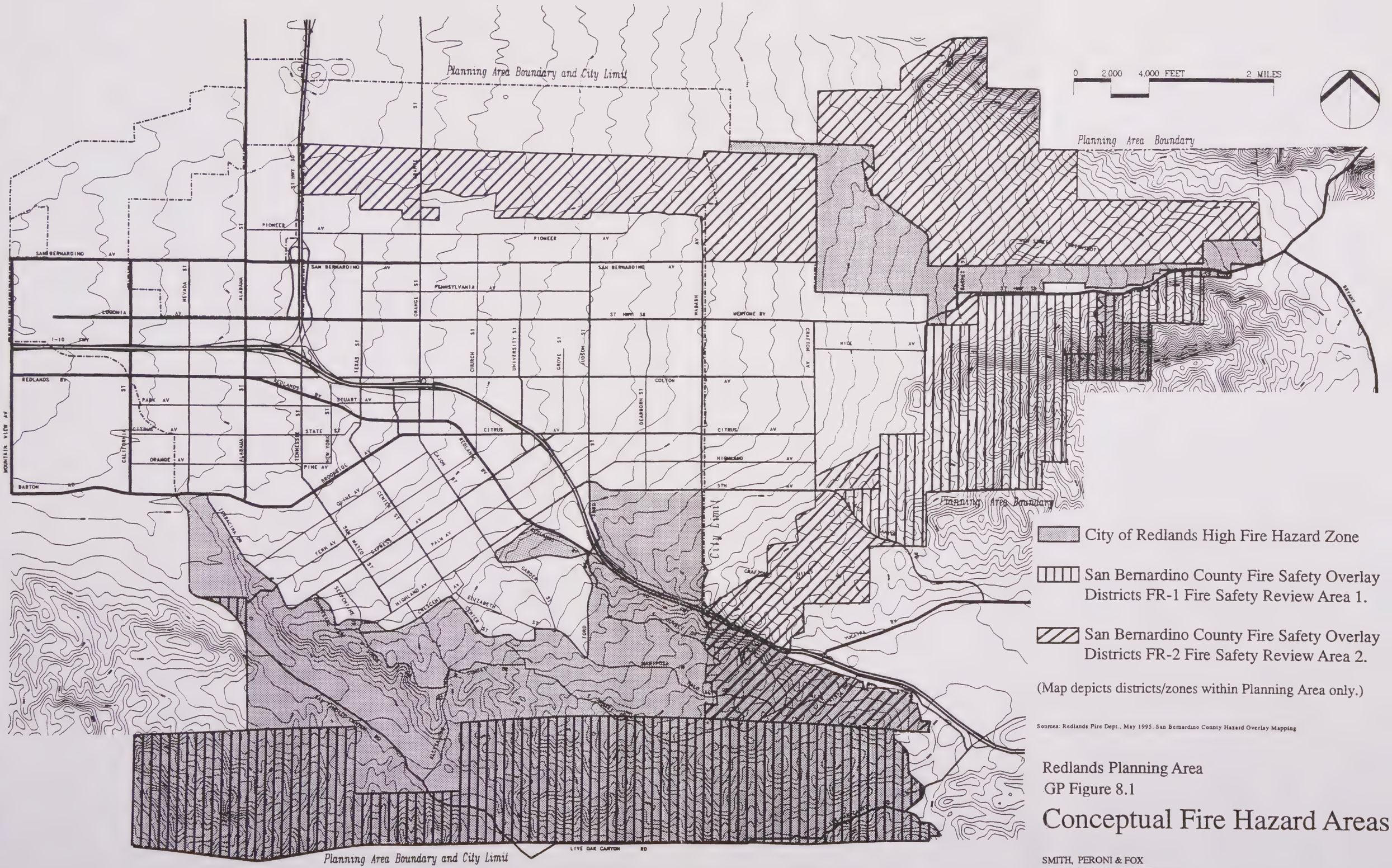
8.30d Monitor methane gas production at active and inactive landfills, and take preventive action if gas production creates a significant fire hazard.

Monitoring at the California Street landfill has shown that methane gas was responsible for several small, on-site fires. The inactive Church Street landfill and active San Timoteo Canyon landfill should also be monitored.

8.30e Devise alternative fire protection standards suitable for Rural Living areas not exposed to high wildland fire hazards.

The cost of installing an urban fire protection water system to serve Rural Living development in citrus groves may be prohibitive. Alternatives such as sprinklers and required on-site water storage may be adequate.

8.30f Consult the San Bernardino County Fire Safety Overlay Ordinance (July, 1989 Development Code) for possible appropriate implementation measures for development in the foothills area. *The Fire Safety Overlay Ordinance is the successor to the "Foothill Communities Protective Greenbelt Program" which specifies parts of the Santa Ana River Wash and the proposed Sunrise Ranch (Greenspot) development area as a wildland/urban interface, subject to increased risk of fire, flood, or erosion. The Fire Safety Overlay Ordinance contains recommendations for access and traffic circulation, fuel modification zones, site and street identification, roadside vegetation specifications, water supply and system standards, construction and development design, erosion control, and several other requirements.*


Planning Area Boundary and City Limit
0 2,000 4,000 FEET 2 MILES
Planning Area Boundary
Planning Area Boundary
Planning Area Boundary
City of Redlands High Fire Hazard Zone
San Bernardino County Fire Safety Overlay Districts FR-1 Fire Safety Review Area 1.
San Bernardino County Fire Safety Overlay Districts FR-2 Fire Safety Review Area 2.
(Map depicts districts/zones within Planning Area only.)
Sources: Redlands Fire Dept., May 1995. San Bernardino County Hazard Overlay Mapping
Redlands Planning Area
GP Figure 8.1
Conceptual Fire Hazard Areas
SMITH, PERONI & FOX
BLAYNEY, DYETT, GREENBERG
ESRI
Planning Area Boundary and City Limit
SAN BERNARDINO AV
PIONEER AV
REDLANDS BV
STUART AV
PARK AV
CITRUS AV
STATE ST
ORANGE AV
PINE AV
BROOKSIDE
CITRUS AV
HIGHLAND AV
COLTON AV
MOUNTAIN VIEW AV
BARTON RD
LIVE OAK CANYON RD
I-10 FWY
ST HWY 38
CITY LIMIT

8.30g All projects proposed in areas that are at risk from wildfire shall adhere to requirements under Redlands Fire Department Prevention Standard "Fire Safety Modification, Zones 1 and 2".

The "Fire Safety Modification Standard" was updated by the Redlands Fire Department in May of 1995. This standard is subject to periodic review and update by the Redlands Fire Department.

8.40 Drainage and Flooding

The primary purpose of major flood control projects to be constructed in or near the Planning Area is to protect development to the west. However, Redlands' vulnerability to raging Santa Ana River and Mill Creek Zanja flood waters was demonstrated by the destructive floods of 1862, 1938, and 1969. Since then, numerous improvements have reduced hazards to lives and property. Additional flood improvements underway in 1991 include the Seven Oaks Dam (located to the northeast of the Planning Area, on the Santa Ana River), Mill Creek levee renovation, and final design of San Timoteo Canyon channel and debris basins.

The potential severity of flooding events requires careful long-range planning, and balancing uses. Growing environmental consciousness has led to a new understanding of the types of flood control measures appropriate to Southern California. Costs of an unmitigated disaster must be weighed against costs of land, construction, and maintenance, and balanced with long-range environmental concerns, such as groundwater recharge and habitat preservation. Flood and drainageways also have regional significance as areas of mineral resources (Section 7.40) and recreational uses (Section 7.10).

Guiding Policies: Drainage and Flooding

8.40a Protect lives and property and ensure that structures proposed for sites located on flood plains subject to the 100-year flood are provided adequate protection from floods.

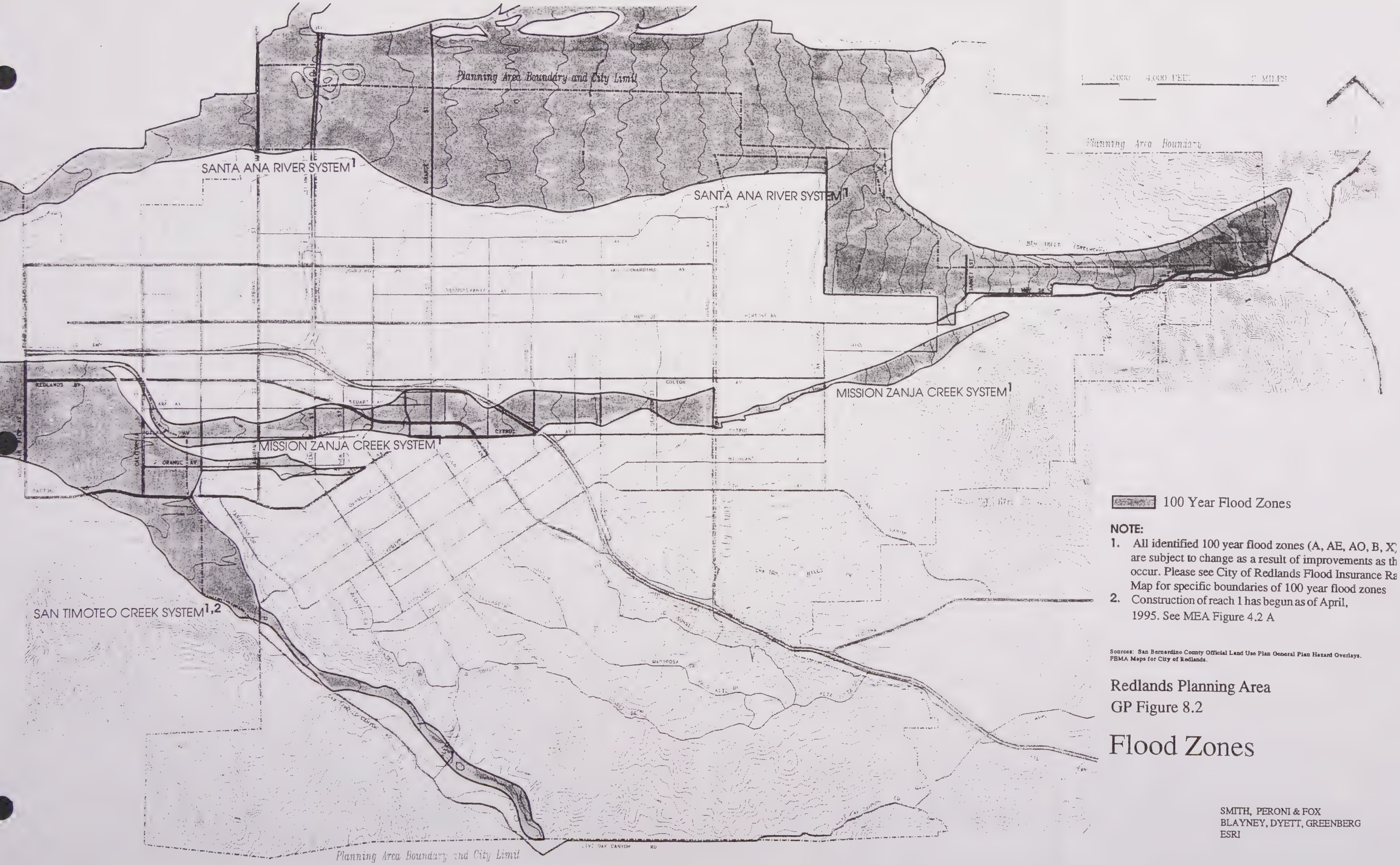
100-year flood boundaries are shown on GP Figure 8.2. Common methods of floodproofing an existing structure include constructing a small, encircling levee or floodwall, elevating the structure, or sealing it for watertightness.

8.40b Preserve as open space those areas which cannot be mitigated for flood hazard.

Acceptable types of uses for flood prone areas classified as part of the Flood Plain District under Section 31.60 of the Redlands Zoning Ordinance include flood-control related uses, various types of agricultural uses, wildlife or habitat preserves and, with a conditional use permit, mineral resource excavation and removal, recreation and park areas, and parking lots.

8.40c Support a multi-use concept of flood plains, flood-related facilities, and waterways, including, where appropriate, the following uses:

- flood control
- groundwater recharge
- mineral extraction
- open space
- nature study
- habitat preservation
- pedestrian, equestrian, and bicycle circulation
- outdoor sports and recreation.



NOTE:

1. All identified 100 year flood zones (A, AE, AO, B, X) are subject to change as a result of improvements as th occur. Please see City of Redlands Flood Insurance Ra Map for specific boundaries of 100 year flood zones
2. Construction of reach 1 has begun as of April, 1995. See MEA Figure 4.2 A

Sources: San Bernardino County Official Land Use Plan General Plan Hazard Overlays. FEMA Maps for City of Redlands.

Redlands Planning Area
GP Figure 8.2

Flood Zones

SMITH, PERONI & FOX
BLAYNEY, DYETT, GREENBERG
ESRI

Balancing flood control with other uses involves prioritizing among uses, and must be an ongoing process. For example, implementation of the Santa Ana River Trail Master Plan will require close coordination between the City and several other agencies, including the County Flood Control District, to ensure that flood protection is not compromised by trail use, and vice versa.

8.40d Where feasible given flood control requirements, maintain the natural condition of waterways and flood plains to ensure adequate groundwater recharge and water quality, preservation of habitat, and access to mineral resources.

8.40e Coordinate with the U.S. Army Corps of Engineers and San Bernardino County throughout construction, mitigation, and operation of the various components/projects that make-up the "Santa Ana River Mainstem Project" that will directly affect the Planning Area. These projects include the following: the Seven Oaks Dam, the improvements to the Mill Creek levees (completed), and the planned improvements along the three reaches of the San Timoteo Canyon Creek. In addition to the coordinated effort on the projects mentioned above between the U.S. Army Corps of Engineers and San Bernardino County, the City of Redlands Public Works Department must be actively included in the development of any/all proposed flood control facilities along the reaches of the Mission Zanja Creek System.

The Santa Ana River Mainstem project, which involves U.S. Army Corps work on the areas mentioned in this policy, is expected to continue for several years. Once the construction phase of these projects is complete, the Army Corps will engage in biological mitigation in the Santa Ana River Wash. The Seven Oaks Dam will be operated by San Bernardino County.

8.40f Support the intent of the County of San Bernardino's flood control policies as specified in the County General Plan.

The County's detailed flood policies specify a range of protective measures, encourage coordination among jurisdictions, and acknowledge the need for a multi-use concept of streams and creeks.

8.40g Cooperate with all public and private agencies involved to ensure that flood control improvements do not disrupt environmentally sensitive areas beyond a level of mitigability.

While the California Environmental Quality Act (CEQA) provides protection to special status species, "habitats" per se are not recognized nor protected under CEQA. In addition, some species which are known locally to be sensitive may not be listed by the State or Federal governments as rare, threatened, or endangered. Mitigation for construction of the Seven Oaks Dam may involve preservation and enhancement of portions of the Santa Ana River Wash. (See Section 7.21, Biotic Resources.)

Implementing Policies: Drainage and Flooding

8.40h Prepare a Master Drainage Plan for the Planning Area based on buildout of the General Plan.

This plan would allow compilation of information from the Water Master Plan, consultant flood and drainage studies, recently-completed (1994) Army Corps of Engineers' studies associated with the Santa Ana River Mainstem project, and projects associated with the Mission Zanja Creek System into an integrated whole.

8.40i Prior to project approval in the vicinity of a waterway or drainage course, consult Flood Insurance Rate Maps on file with the Community Development Department to identify areas which have not been subject to detailed study; if the project falls within an area which has not been studied, require studies and, if necessary, require mitigation or restrictions on development.

Since Federal Emergency Management Agency (FEMA) flood studies of uninhabited areas are frequently not as detailed as those done for inhabited areas, sparsely populated areas slated for further development may need additional study to determine the historical extent of flooding.

8.40j Work with the San Bernardino County Flood Control District to construct a detention basin in the Crafton area (Crafton Detention Basin) and/or other associated facilities to provide 100-year flood protection along the Mission Zanja Creek System, to reduce or eliminate downstream flooding.

8.40k Prior to construction of the Crafton Detention Basin or other comprehensive drainage solution, consider proposed development within the 100-year flood plain of the Mission Zanja drainage system on a case-by-case basis, to determine whether flood-related mitigation is to be required.

Since the Crafton Detention Basin is not yet funded, its construction could occur at any time during the twenty-year General Plan horizon. Prior to its construction, people and property in the 100-year flood plain may be at risk. New development should be considered carefully in these areas. See related policy regarding park use in this area, in Section 7.10, Open Space and Conservation Element. Additional downtown drainage improvements are under consideration by the City.

8.40l Implement stormwater facilities for the Mission Zanja and Morey Arroyo channels as specified in the Final EIR on the *East Valley Corridor Specific Plan.*

These improvements will be necessary to accommodate the significant increase in stormwater flows expected as a result of development in the Specific Plan Area.

8.40m Prior to construction of the Crafton Detention Basin, identify critical facilities in flood hazard areas, and improve their level of protection, if necessary.

Critical facilities include fire and emergency service facilities, utility lifeline facilities such as water, electricity, and gas supply, sewage disposal, and communications and transportation facilities. Various measures may be employed to upgrade protection of critical facilities.

8.40n Implement or work with other agencies to implement improvements that will provide the vicinity of the University of Redlands with 100-year flood protection.

The 1986 Mill Creek Zanja Detention Basin Study notes that construction of a Crafton Detention Basin would not control the 100-year storm event in the vicinity of the University of Redlands. This area requires additional consideration. The Comprehensive Drainage Study currently in progress will analyze potential solutions to this issue.

8.40o Reduce the effects of surface runoff in developing areas by the use of extensive landscaping with an emphasis on native and drought-resistant species, minimizing impervious surfaces, and providing for recharge.

8.40p Encourage timely FEMA map changes and annually incorporate mapped revisions to the 100-year flood zone into City hazards maps.

With completion of flood improvements throughout the City, the boundary of the 100-year flood zone will change. These changes should be promptly incorporated into existing maps.

8.40q To reduce the possibility of significant changes in climate and regional hydrology that could lead to local flooding, support national and international efforts to protect the Earth's ozone layer, including policy to minimize or prevent the release of chlorofluorocarbons and similar gases.

Although flooding impacts on the Redlands Planning Area due to sea level rise or climatic change are not immediately obvious, noticeable changes in sea level or climate would be expected to significantly alter regional hydrology. Individual efforts to prevent the release of gases which contribute to the "Greenhouse Effect" might make only a tiny difference, but many individuals acting together could make a significant collective difference. Estimates for future rates of sea level rise vary widely, from about four inches over the next 50 years to estimates of up to 10 feet over the next 100 years.

8.40r In the event of dam failure on the Seven Oaks or Bear Valley dams, implement emergency measures consistent with the City's Emergency Plan.

Dam failure, while considered unlikely, is among the hazards mentioned in the Emergency Plan.

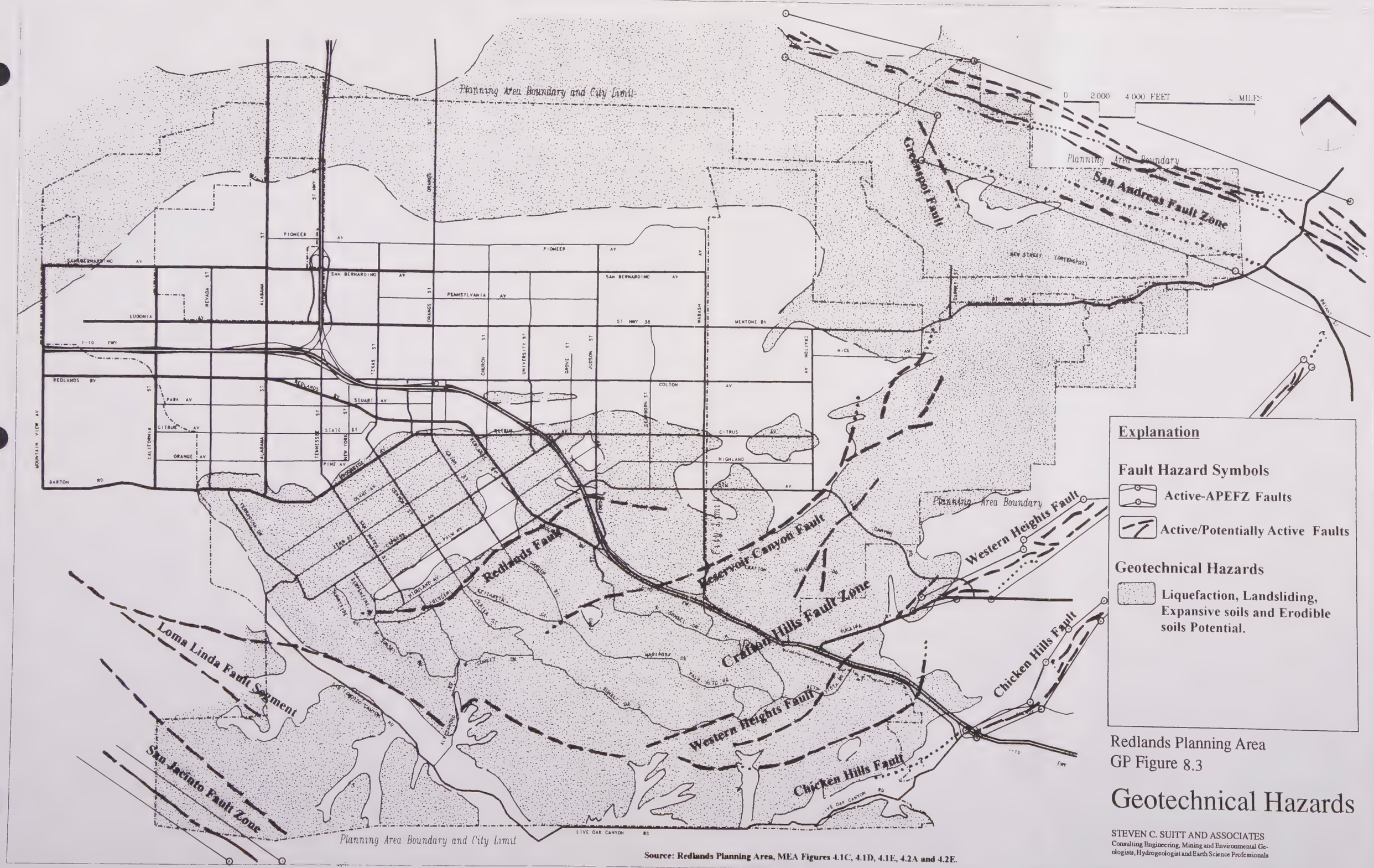
8.40s The City of Redlands will continue to coordinate with Crafton Hills Water District, the Bear Valley Mutual Water Company, the San Bernardino County Flood Control District, the U.S. Army Corps of Engineers, the Regional Water Quality Control Board, and any other public or private agencies affected by drainage to ensure the compatible use of these facilities.

8.50 Seismicity, Geology, and Soils

As in all of Southern California, safety planning efforts in Redlands center on potential impacts of earthquakes. The Planning Area lies between the best-known fault in California, the San Andreas, and the State's most active fault, the San Jacinto. According to the Southern California Earthquake Center (SCEC), the 30 year probability for M7.3 earthquakes on the San Jacinto and San Andreas faults within the Planning Area is 37 and 28 percent, respectively. Maximum horizontal ground accelerations from these 30 year probable earthquakes are anticipated to substantially exceed 0.4g, which is the current maximum Uniform Building Code design value. Other faults within or adjacent to the Planning Area may also be active. Environmental hazards including active faults, potentially active faults, liquefaction, landsliding, expansive and erodable soils are shown on GP Figure 8.3, Geotechnical Hazards.

The dangers of living on an alluvial plain or steep hillsides in a seismically active region range from the effects of fault rupture to the many manifestations of severe shaking: landslides and slope collapse, subsidence, liquefaction, and dam failure. General Plan policies stress avoidance of construction in active fault zones, geotechnical study prior to construction in hazard areas, and public awareness and education. Plan policy supports the continued use of the City's building inspection program to identify and upgrade high-risk unreinforced masonry buildings.

The Planning Area is framed to the north, south and east by slopes subject to erosion and non-seismically initiated landslides, mudslides, or slope collapse. Subsidence may occur in steep or flat portions of the Planning Area that experience excessive groundwater withdrawal, Soils in the Planning Area are also



Redlands Planning Area
GP Figure 8.3

Geotechnical Hazards

STEVEN C. SUITT AND ASSOCIATES
Consulting Engineering, Mining and Environmental Geologists, Hydrogeologist and Earth Science Professionals

Source: Redlands Planning Area, MEA Figures 4.1C, 4.1D, 4.1E, 4.2A and 4.2E.

subject to collapse, hydroconsolidation and expansive soil concerns. Geologic and soils policies and Zoning Ordinance provisions seek to minimize occupation of steep or unstable lands. Steep slopes are shown on GP Figure 8.4, Slope.

Soil types within the Planning Area range from no development restrictions to severe limitations for construction. It is important for the City to recognize the potential development/construction limitations of these soil types.

Guiding Policies: Seismicity, Geology, and Soils

8.50a Investigate and mitigate geologic and seismic hazards, or locate development away from such hazards, in order to preserve life and protect property.

Areas of unmitigable hazards should be preserved as open space.

8.50b Support implementation of San Bernardino County General Plan policies relating to geologic and seismic hazards, and consult with the San Bernardino County Geologist where conflicting information exists or where no published information is available.

To some extent sources vary or present incomplete coverage of the locations of faults and areas subject to liquefaction and landslides. The County Geologist, as well as USGS and the State Division of Mines and Geology (DMG), can provide a resolution to some of these issues, or references to the latest sources of information.

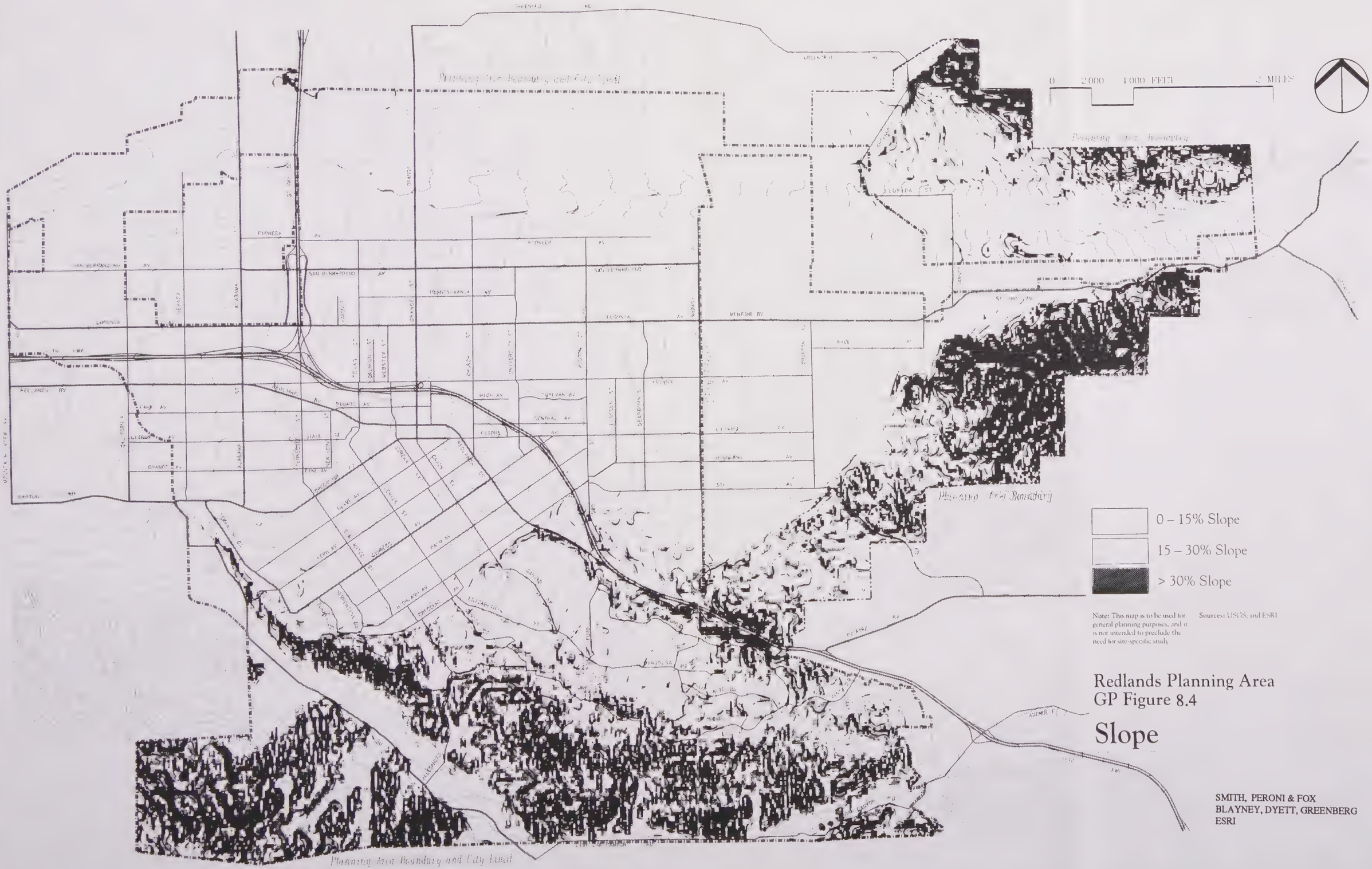
Implementing Policies: Seismicity, Geology, and Soils

8.50c Continue to restrict development within Alquist-Priolo Earthquake Fault Zones and other active/potentially active faults which have not yet received Alquist-Priolo classification.

California's Alquist-Priolo Earthquake Fault Zoning Act went into effect in 1973, and has been amended several times. The purpose of this Act is to prohibit the location of most structures for human occupancy across the traces of active faults and to thereby mitigate the hazard of fault rupture. Under the Act, the Division of Mines and Geology (DMG) has delineated Earthquake Fault Zones along active faults in California and jurisdictions containing these zones must then regulate certain types of development within these zones. The San Andreas and San Jacinto faults, which bound the Planning Area, as well as the less-well-known Western Heights and Chicken Hill fault zones east of the Planning Area, have been classified as Earthquake Fault Zones under the Alquist-Priolo Earthquake Fault Zoning Act. These areas are identified on GP Figure 8.3.

8.50d Consult with the Division of Mines and Geology if there are issues or questions concerning fault alignment. Evaluate and, if necessary, perform site specific investigation for development proposed on or near Alquist-Priolo Earthquake Fault Zones as well as within 500' of other active/potentially active faults as depicted on GP Figure 8.1.

8.50e Require areas identified as having significant liquefaction potential (including secondary seismic hazards such as differential compaction, lateral spreading, settlement, rockfall, and landslide) to undergo geotechnical study prior to development; mitigate the potential hazard to a level of insignificance; if mitigation is not possible, preserve these areas as open space or agriculture.


0 2000 4000 FEET 2 MILES
Planning Area Boundary
Planning Area Boundary and City Limit
0 – 15% Slope
15 – 30% Slope
> 30% Slope
Note: This map is to be used for general planning purposes, and it is not intended to preclude the need for site-specific study
Sources: USGS; and ESRI
Redlands Planning Area
GP Figure 8.4
Slope
SMITH, PERONI & FOX
BLAYNEY, DYETT, GREENBERG
ESRI

The San Bernardino County Geologic Hazard Overlay map shows the Santa Ana River Wash and portions of adjacent areas as having a high susceptibility to liquefaction, on a generalized basis. The liquefaction information on the County map is based on USGS data (1991).

8.50f Monitor studies related to induced seismicity; if further studies establish a conclusive relationship between reservoir drawdown, refilling, and seismic activity, encourage San Bernardino County to manage the Seven Oaks Dam water regime to reduce risk.

Evidence thus far suggests a relationship between reservoir drawdown, refill, and subsequent seismic activity, as seen in the 1975 Cleveland Hill earthquake, thought to have occurred after unprecedented drawdown and refilling of Lake Oroville in Northern California.

8.50g Use the building inspection program to inventory and evaluate earthquake hazards in existing buildings using the most current seismic design standards and hazard reduction measures, and continue the program for the systematic upgrading of seismically unsafe buildings. Continue to explore measures to induce building owners to upgrade and retrofit structures to render them seismically safe.

Unreinforced masonry buildings are clustered in the downtown area and pose the greatest earthquake hazard. About 15 percent of these buildings have recognized historic value.

8.50h Develop a City-based public awareness/earthquake preparedness program, to educate the public about seismic hazards, and what to do in the event of an earthquake.

Seismic hazard education could take the form of distributing an information pamphlet through libraries, schools, or utilities bills, and community-wide simulations. The City should coordinate with the San Bernardino geologic educational program, which covers hazards, abatements, and emergency plans and procedures.

8.50i Continue to regulate development on slopes greater than 15 percent (15 foot rise in 100 feet run) to minimize soil erosion, landslides, water runoff, flood hazards, loss of habitat, and wildfire hazards. Designate land exceeding 30 percent slope as Resource Conservation on the General Plan Diagram and limit development to one housing unit per 10 acres or one housing unit per parcel existing on the date of adoption of the General Plan if under 10 acres. Transferring densities from steeper areas to flatter portions of the site is desirable and preferred.

This policy is designed to preserve natural landforms and vegetation, prevent mass grading, and reduce landslide risks. Density limitations specified in the Zoning Ordinance also serve these functions and ensure the efficient expenditure of funds for public facilities and services. See also Section 4.40 in Residential Land Use, Land Use Element.

8.50j Consider amendment of the Zoning Ordinance to include restrictions for soil types with developmental constraints similar to those on the Saugus Sandy Loam series as follows:

1. Any proposed development must consider the potential for soil erosion, both during and after construction.

2. Since these soils are prone to hydrocollapse, the City should require developers to hire a geotechnical engineer to conduct site-specific studies and recommend remedial measures, if needed.

3. If on-site sewage disposal systems (septic tanks) are to be used, the developer must demonstrate that the soils have sufficient percolation capacity; and

4. There are existing natural landslides in this area, and development can create new landslides. Therefore, the City should require all developers retain a geotechnical engineer and an engineering geologist to assess the impact of a proposed development on the stability of slopes.

Saugus and similar soils are shown on GP Figure 8.1. Other soil types recognized by the Soil Conservation Service as having severe limitations for construction of dwellings within the Planning Area are the Cieneba-Friant sandy loams and eroded Ramona sandy loams on 15 to 30 percent slopes. Maps of these soils' distribution are on file with the City.

8.50k For new construction and exterior building expansions including multi story additions or lateral expansions as deemed appropriate by the City Building Department, require the preparation of a geotechnical/soils/geologic report by a registered civil geotechnical/soils engineer and a certified engineering geologist. This report shall address erodible, expansive and collapsible soils, existing or potential landslides, areas with unsuitable percolation characteristics, large scale subsidence, non rippable bedrock areas, ground motion parameters, active/potentially active faulting, liquefaction, and any other geotechnical concepts as appropriate and make recommendations for mitigating any potential adverse impacts.

8.50l Require soil erosion mitigation during construction.

See also Policy 8.20o.

8.50m Adopt revisions of the Uniform Building Code which incorporate the most current seismic design standards and hazard reduction measures recommended by the Applied Technology Council (ATC) the Structural Engineers Association of California (SEAOC), the Earthquake Engineering Research Institute (EERI), the Seismic Safety Commission, and the Southern California Earthquake Center.

8.50n Ensure that the Emergency Management Plan addresses seismic hazards, including hazardous materials incidents, hazardous buildings, critical facilities (i.e., schools, hospitals), emergency response preparedness and recovery with consideration to evacuation routes, peak load water supply requirements and minimum road width/clearance around structures.

8.60 Wind Hazards

Redlands, like most of San Bernardino County, is subject to periodic high winds, particularly those known as the Santa Anas. Named for the mountains and canyons through which they pass, these winds typically occur several times per year, often between September and December, and have been measured throughout the County at speeds approaching or exceeding 100 mph. The Santa Anas have been blamed for traffic accidents, power outages due to downed power lines, deaths due to airborne debris, wind erosion, high levels of particulate matter in the air and, perhaps most significantly, devastating fires.

The California Department of Forestry and Fire Protection has identified these winds as a critical weather element in the start and spread of uncontrolled fires. Winds supply fresh oxygen to fires, quicken their spread by carrying burning fire brands, and bending flames forward while further increasing air temperatures and dehydrating both the air and available fuels. Turbulent and erratic winds exemplified by a Santa Ana condition also hinder firefighters on the ground by causing unpredictable fire fronts and rendering the use of aircraft difficult or impossible.

Although measurements have not been made, observers have noted that Redlands generally seems to be spared the full impacts of the Santa Anas by the buffering presence of the San Bernardino Mountains. There can be great differences in wind impacts over short distances, however, due to topographic variation, and what is true

for much of the Planning Area may not be true elsewhere. In particular, undeveloped portions of the Planning Area may have been subject to less scrutiny, since observers may not be present to experience or report on wind intensities.

Guiding Policy: Wind Hazards

8.60a Protect people and property from the adverse impacts of high winds.

Implementing Policies: Wind Hazards

8.60b Identify areas susceptible to high winds, if any, as data become available.

County wind hazard policies specify the future mapping of wind hazard areas. 6While recognizing the dearth of mapped information on wind hazards, County policies provide for future mapping of high wind areas as data become available, adoption of protective design measures for critical, essential, and high occupancy structures, upgrading for susceptible facilities, and various measures to reduce wind-induced erosion. The neighboring City of San Bernardino has mapped areas of high wind hazard, and applies stringent conditions for the construction of buildings and public facilities. Identification of hazard areas should be based on wind speed measurements and reports of damage.

8.60c Ensure that buildings and public infrastructure are constructed and sited to withstand high wind velocities, as data becomes available.

Implementation of this policy requires that areas of high wind velocity are identified first, in accordance with Policy 8.60b above.

8.70 Electromagnetic Fields

After several years of analysis of dozens of studies exploring a possible connection between cancer and extremely low frequency (ELF) electromagnetic fields, the EPA has concluded that a growing body of data suggests a causal link. Although measurable, the intensity of electromagnetic fields is not related to any yet-established health standards, and effects on human tissue are subtle, complex, and poorly understood. Some independent researchers state that cancer or other types of health risk may be associated with long-term residence close to high-voltage power lines and substations. Congressional bills that would boost Federal funds for research into the biological effects of electromagnetic fields, including fields from high voltage power lines in residential areas, are under consideration. Southern California Edison's 220 kilovolt transmission lines traversing from the southwest to the northwest corner of the Planning Area are remote from existing housing.

Guiding Policy: Electromagnetic Fields

8.70a Support research on the health effects of electromagnetic fields generated by power transmission lines and other sources, and take appropriate action, if warranted, to reduce hazardous exposure.

If causal links are better established between high-voltage power lines or substations and health impacts, protective measures might include maintaining setbacks from potential future transmission lines and substations or undergrounding transmission lines.

8.70b Insist on adequate setbacks from schools, housing, and care facilities for any additional high voltage power lines or substations to be constructed in the Planning Area.

The California State Department of Education, School Facilities Planning Division, maintains standards for distance from schools according to voltage.

8.75 High Pressure Fuel Lines

High pressure gas lines (greater than 60 pounds) run along Mountain View Avenue on the western edge of the Planning Area, turning southeast at Mission Road. At California Street the lines jog north, continuing east and south along Orange Avenue to Tennessee Street, State Street, Eureka Street, Redlands Boulevard, Reservoir Road, Wabash Avenue, Panorama Drive, and entering Yucaipa along Hampton Road and Dunlap Boulevard. Another high pressure gas line stretches along Sand Canyon Road and Crafton Avenue. Smaller gas lines carried in pipe ranging from three to eight inches are distributed throughout most of the Planning Area. These facilities are shown on maps on file with the City of Redlands.

A high pressure 20" petroleum line extends through Redlands in San Timoteo Canyon within the Santa Fe Pacific Railroad right-of-way. Multiple types of petroleum products to include oil, gasoline and jet fuels are being transported through this line which extends from El Segundo in the Los Angeles basin to Phoenix, Arizona and Las Vegas, Nevada.

Guiding Policy: High Pressure Fuel Lines

8.75a Protect residents from the potential dangers of broken or damaged fuel lines.

Implementing Policies:

8.75b Develop an emergency response plan that adequately addresses the impacts of a broken natural gas or petroleum line in the City. Coordination is needed between the Police and Fire Departments and Southern California Gas Company and Santa Fe Pacific Pipelines.

8.75c Provide sufficient setbacks from schools, housing, and care facilities for fuel lines which are existing or to be constructed in the Planning Area.

8.80 Airport Safety

Safety areas are established in the vicinity of airports to minimize hazards to life and property both in the air and on the ground. Consistent with the Aviation Safety Component of the San Bernardino County General Plan (1989), hree Airport Safety Areas are defined within the Redlands Planning Area:

Safety Area 1: Clear zones or crash hazard zones are defined by the Federal Aviation Agency (FAA) or military AICUZ studies. Only Redlands Airport clear zones, which are partially outside the airport boundary, are within the Planning Area. Urban development within the clear zones is unacceptable.

Safety Area 2: The area outside the airport boundaries within the 65 CNEL (or Ldn) noise contour line. Within Safety Area 2 residential development and places of public assembly are unacceptable, but light industry (maximum 25 employees per acre) and open recreational uses such as a golf course are normally acceptable.

Safety Area 3: The area one mile outside the 65 CNEL noise contour line. Development of all types is normally acceptable within Safety Area 3, but the City of Redlands requires dedication of an avigation easement (a right to fly over granted to an airport owner) as a condition of project approval.

Guiding Policy: Airport/Aviation Safety

8.80a Maintain standards in Airport Safety Areas 1, 2, and 3 as described in this section.

Implementing Policy: Airport/Aviation Safety

8.80b All projects within Safety Areas 1, 2 and 3 shall be reviewed by the City for conformity to airport safety standards.

8.90 Emergency Management

City Emergency Plan. The City of Redlands Emergency Plan is the guiding document in the event of emergencies in the Planning Area. According to the Emergency Disaster Plan, which is continually updated every two years, the potential for a major calamity increases with the urbanization of previously unpopulated areas, and with the advent of industrial processes using hazardous materials. The Emergency Disaster Plan notes that the impact of disasters such as earthquakes, fires, and floods has become magnified as more high-risk land in the region is developed in response to pressure of urban growth. In addition, the unprecedented use of hazardous chemicals in industry and agriculture increases the potential for disaster. Transportation accidents can almost instantaneously produce mass casualties. Social unrest can grow to major proportions and erupt into riots, resulting in loss of life and destruction of property.

The Emergency Plan identifies numerous hazardous situations to which the City will respond. Of these, earthquake, flood, dam failure, and fire are addressed in other sections, and their impacts are intended to be minimized through implementation of General Plan policies. (See Section 8.50 for earthquakes, 8.40 for flood and dam failure, and 8.30 for fire.) Additional calamities covered by the Emergency Plan include war, terrorist acts, transportation accidents, industrial accidents, civil disturbance, storms, pollution, epidemic, and hazardous or radiological materials spills, major gas line ruptures, drought, and extreme heat.

Evacuation routes. The Emergency Disaster Plan identifies specific evacuation routes within the Planning Area. The San Bernardino County General Plan (1993) designates potential evacuation routes in the event of an emergency. Within the San Bernardino Valley, the major routes out of the County are Interstates 10, 15, and 215, along with State Highways 30, 31, 60, 66, 71, and numerous major and secondary highways. This list is not intended to be comprehensive, and specific evacuation routes would be designated during a specific emergency, since earthquakes, floods, fires, or other disasters may make certain routes impassable.

In addition to the above potential evacuation routes, Caltrans has identified a number of possible evacuation routes in the San Bernardino Valley. These roads have the least number of bridges, and may be among the safest roads to travel in the event of a major earthquake. In the East Valley, those roads which connect with the Planning Area include:

- Hospitality Drive from Tippecanoe Avenue to Waterman Avenue
- Coulston Street from Mountain View Avenue to Tippecanoe Avenue
- Lugonia Avenue from Orange Street to Mountain View Avenue
- Redlands Boulevard from Orange Street to Waterman Avenue

Routes leading away from the Planning Area and crossing through the City of San Bernardino rely on parts of Barton Road, Waterman Avenue, Mill Street, E Street, Kendall Drive, La Cadena Drive, Mt. Vernon Avenue, Highland Avenue, and Cajon Boulevard. Throughout the Planning Area, a system of recreational use trails may be used for emergency evacuation routes.

Cooperative efforts. In the event of an emergency, the City would, to the extent possible, coordinate efforts with San Bernardino County, surrounding jurisdictions, the State of California Office of Emergency Services, and the Federal Emergency Management Agency (FEMA). Redlands also cooperates with surrounding police and fire departments under formal mutual aid pacts. The City of Redlands also comes under the purview of the California Emergency Services Act, which provides for mutual aid in any functional area. The American Red Cross and other professional volunteer organizations provide assistance during natural disasters, operating independently of, but in cooperation with local government.

Activation of Emergency Plan. The City of Redlands Emergency Disaster Plan becomes operative automatically by the existence of a State of War Emergency as defined by the California Emergency Services Act, or when the Governor has proclaimed a State of Emergency in an area including the City, or on the orders of the City Council, in accordance with local ordinance. The City would also be included in an emergency declaration of the County, unless stipulated otherwise.

Guiding Policies: Emergency Management

8.90a Use the City of Redlands Emergency Disaster Plan as the guide for disaster planning in the Redlands Planning Area.

8.90b Aim for City-level self-sufficiency in emergency response.

While multijurisdictional planning is an ideal, in the event of a regionwide disaster the emergency services of the County, State, and Federal agencies and of adjacent locales may be severely strained. Slippage on the San Andreas or San Jacinto faults, for example, could interrupt communication with outside emergency services, or cut off certain evacuation routes. This type of severe disaster may require the City to handle the crisis in relative isolation.

Implementing Policies: Emergency Management

8.90c Continue to update and revise the Emergency Disaster Plan as needed, to reflect changes in the Planning Area and changes in emergency management techniques.

Addition of population and ongoing construction may necessitate revision of details of the Emergency Plan.

8.90d Establish community programs to train volunteers to assist police, fire, and civil defense personnel during and after a major earthquake, fire, flood, or other major disaster.

The City can encourage this training by publicizing courses available to the public in standard CPR and First Aid, as well as disaster-oriented training. The Emergency Plan should specify locations to which volunteers can report during an emergency, and should include listings of appropriate jobs for volunteers. The City's Personnel Section and the San Bernardino County American Red Cross should coordinate their efforts in the recruitment and training of volunteers.

8.90e Initiate planning for long-term recovery from disaster. Coordinate with on-going planning efforts in San Bernardino County.

The long-term recovery process may continue for a period up to 10 years.

9.0 NOISE ELEMENT

REDLANDS GENERAL PLAN

9.0 NOISE ELEMENT

The Noise Element provides a comprehensive program to achieve and maintain land use compatibility with environmental noise levels. It identifies noise sources and noise sensitive land uses, and defines in the text or on a map areas of noise impact for the purpose of developing programs to ensure that Redlands residents will be protected from excessive noise intrusion, both now and in the future. Everyday sounds normally range from 30 dBA (very quiet) to 100 dBA (very loud).

The Noise Element follows State guidelines in the State Government Code Section 653021(g) and Section 46050.1 of the Health and Safety Code. The text, GP Figure 9.1, Projected Noise, Buildout, tables, and illustration which comprise the Element quantify the long-term community noise environment based on traffic projections at buildout. A Technical Appendix published within the Master Environmental Assessment (including MEA Figure 14.1 showing baseline 1994 noise levels within the Planning Area) contains a more comprehensive inventory of current and forecast noise conditions, background information on noise, health effects of noise, methodology, measurement and modeling results, and bibliography.

Noise has been defined as unwanted sound and it is known to have several adverse effects on people. From those known effects of noise, criteria have been established to help protect the public health and safety and prevent disruption of certain human activities. This criteria is based on such known effects of noise on people as hearing loss (not generally a factor with community noise), communication interference, sleep interference, physiological responses and annoyance. Each of these potential noise impacts are briefly discussed below:

Hearing Loss. Hearing loss is not, in general, a concern in community noise problems. The potential for noise induced hearing loss is more commonly associated with occupational noise exposures in heavy industry or very noisy work environments with long-term exposure. The Occupational Safety and Health Administration (OSHA) identifies a noise exposure limit of 90 dBA for 8 hours per day to protect from hearing loss. Noise in neighborhoods, even in very noisy airport environments near major international airports, is not sufficiently loud to cause hearing loss.

Communication Interference is one of the primary concerns in environmental noise problems. Communication interference includes speech interference and interference of activities such as watching television. Normal conversational speech is in the range of 60 to 65 dBA and any noise in this range or louder may interfere with speech. There are specific methods of describing speech interference as a function of distance between speaker and listener and voice level. GP Figure 9.2, Speech Communications as a Function of Background Noise Level, shows the percent of sentence intelligibility with respect to various noise levels.

Sleep Interference is a major noise concern in noise assessment and, of course, is most critical during nighttime hours. Sleep disturbance is one of the major causes of annoyance due to community noise. Noise can make it difficult to fall asleep, create momentary disturbances of natural sleep patterns by causing shifts from deep to lighter stages and cause awakening. Noise may even cause awakening that a person may or may not be able to recall.

Extensive research has been conducted on the effect of noise on sleep disturbance. Recommended values for desired sound levels in residential bedroom space range from 25 to 45 dBA with 35 to 40 dBA being the norm. The National Association of Noise Control Officials has published data on the probability of sleep disturbance with various single event noise levels. Based on experimental sleep data as related to noise exposure, a 75 DBA interior noise level event will cause noise induced awakening in 30 percent of the cases.

Sources: Endo Engineering, Redlands Airport Master Plan, 1994

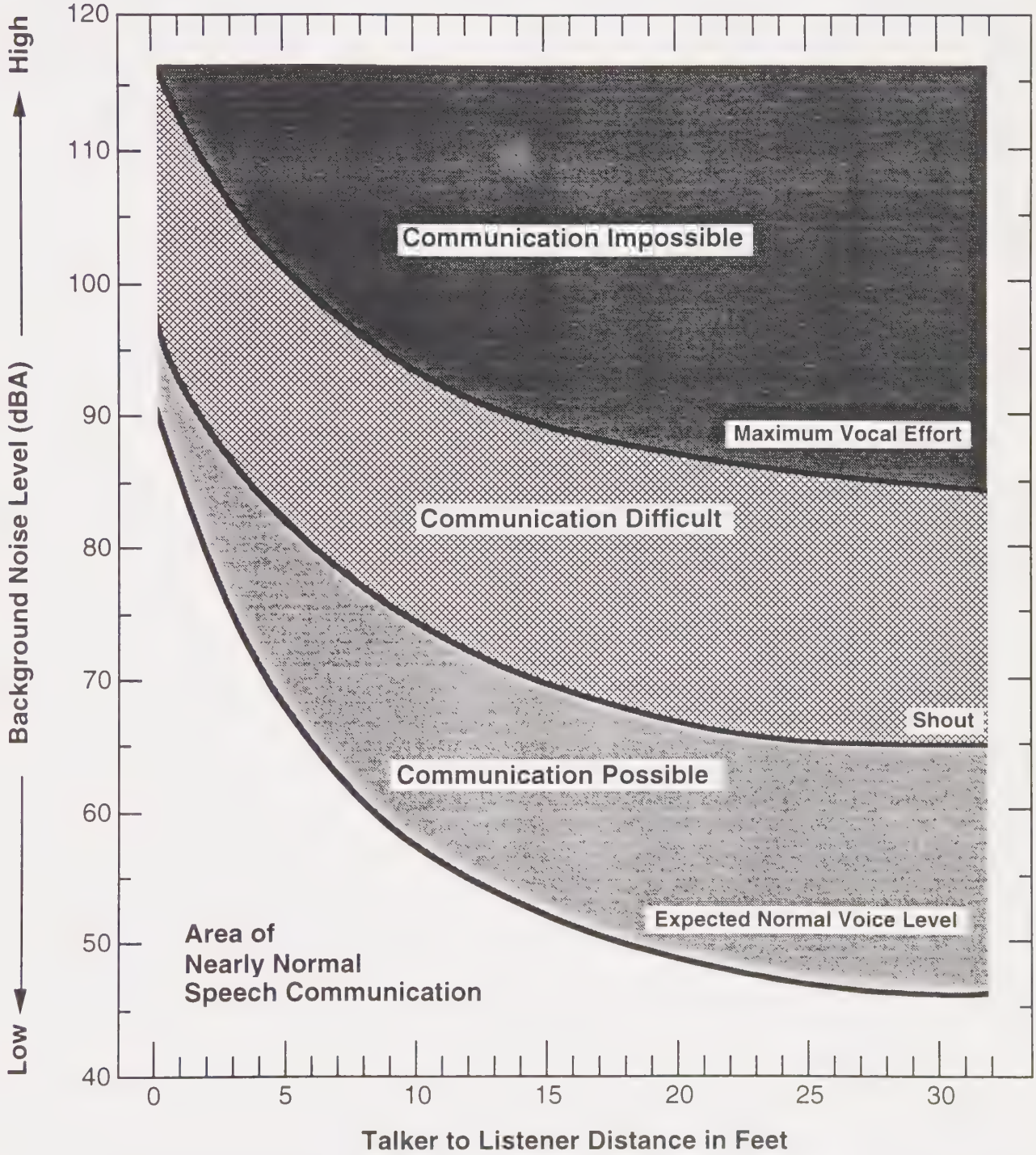
Redlands Planning Area
GP Figure 9.1

Projected Noise, Buildou

SMITH, PERONI & FOX
BLAYNEY, DYETT, GREENBERG
ESRI

GP Figure 9.2

Speech Communication as a Function of Background Noise Level



Source: Miller, "Effects of Noise on People", Journal of Acoustical Society of America, V.56, No.3, 9/74

Physiological Responses are those measurable effects of noise on people which are realized as changes in pulse rate, blood pressure, etc. While such effects can be induced and observed, the extent is not known to which these physiological responses cause harm or are signs of harm. Generally, physiological responses are a reaction to a loud short term noise such as a rifle shot or a very loud jet overflight.

Annoyance is the most difficult of all noise responses to describe. Annoyance is a very individual characteristic and can vary widely from person to person. What one person considers tolerable can be quite unbearable to another of equal hearing capability. The level of annoyance, of course, depends on the characteristics of the noise (i.e., loudness, frequency, spectra, time, and duration), and how much activity interference (e.g., speech interference and sleep interference) results from the noise. However, the level of annoyance is also a function of the attitude of the receiver. Personal sensitivity to noise varies widely. It has been estimated that 2 to 10 percent of the population is highly susceptible to noise not of their own making, while approximately 20 percent are unaffected by noise. Attitudes are affected by the relationship between the person and the noise source. (Is it our dog or the neighbor's?) Whether we believe that someone is trying to abate the noise will also affect our level of annoyance.

Noise Sources and Receptors

The predominant noise sources in Redlands are motor vehicles, aircraft, and trains. Freeways and a number of arterials expose nearby areas to significant noise levels. Aircraft from Redlands Municipal Airport and other aircraft overflights impact the Planning Area. Although military use of Norton Air Force Base has ended, aircraft occasionally use the airport. Depending on the eventual reuse of that facility, the level of aircraft flights (and, therefore, noise) generated at the airport can be expected to increase, affecting areas within Redlands. The Southern Pacific railroad mainline runs through San Timoteo Canyon. The Santa Fe line runs through downtown Redlands and the residential areas to the east before turning north through Mentone. To a lesser degree, Redlands is also exposed to noise emanating from sources such as industrial and commercial facilities, and from construction and human activities.

Noise affects all types of human activities and land uses, although some land uses are more sensitive to high noise levels than others. Land uses in Redlands identified as noise sensitive include residences of all types, hospitals, rest homes, convalescent hospitals, churches and schools. The most highly impacted areas in Redlands are the residences located adjacent to the I-10 freeway, especially where freeway sections are elevated above the adjacent land uses. An elevated noise source is much harder to mitigate than one that is at or below the grade of the adjacent land uses unless a noise barrier is constructed at the edge of the elevated roadway. Locations of highly impacted areas may be found on the noise contour maps, as described below.

Noise Contour Maps

Community Noise Equivalent Level (CNEL) is a 24-hour average describing a noise environment consisting of a variety of single events. To account for increased sensitivity to noise during nighttime hours, the CNEL calculation penalizes evening and night sound levels. The decibel (dB) scale is logarithmic; a 3 dB difference is barely discernible to most people, and a 10 dB increase is subjectively heard as a doubling of noise. Everyday sounds normally range from 30 dB (very quiet) to 100 dB (very loud).

A "noise contour map" shows as closed contours those areas subject to the same noise levels, much as a topographic map shows as closed contours those areas of similar elevation. Noise contours for 1994 conditions are reproduced in the MEA as MEA Figure 14.1, Existing Noise, 1994. The number of homes exposed to roadway noise levels greater than 60 CNEL in the future will increase due to future residential construction and traffic volume increases. The number of homes exposed to aircraft noise is anticipated to increase or decrease depending upon the reuse of Norton Air Force Base. In order to protect residents from excessive noise from aircraft overflights, the City Council has maintained a policy of restricting residential development under the 65 CNEL airport noise contour. The General Plan proposes no new residential units

within the Airport 65 CNEL Contour. Railroad-related noise is anticipated to stay about the same (with an average 28 daily train operations) and will subject new homes within 600 feet of the track in San Timoteo Canyon to noise levels exceeding 60 CNEL.

GP Figure 9.1, Projected Noise, Buildout, shows noise levels projected for buildout conditions. Contours represent the dB CNEL noise level measured from the street centerline, and do not include the mitigating effect of noise barriers or topography.

The 60 dB CNEL contours are shown on both MEA Figure 14.1 and GP Figure 9.1. The 60 dB CNEL contour represents the outer boundary of the Noise Referral Zone, within which any proposed noise sensitive land use should be evaluated on a project-specific basis and may require mitigation to meet City or State (Title 24) standards. The 65 CNEL contours are also shown on the figures where they are far enough from a roadway to allow them to be seen at this scale.

The 60 CNEL contour represents the level for which any new residential development that is not shielded will require mitigation in order to comply with local noise standards. It is easily seen on MEA Figure 14.1 and GP Figure 9.1 that some residential areas are and will be exposed to noise levels that exceed 60 CNEL.

Existing noise contours, based upon noise measurements taken throughout the City, were used as a guide for establishing a pattern of land uses that minimizes noise exposure to the community.

Policy Approach to Mitigation

State and federal agencies regulate vehicle noise emission from the source, but local governments have little direct control of transportation noise at the source. The most effective methods available to the City to mitigate transportation noise are locating sensitive uses away from noise sources, construction of noise barriers, and site design review.

GP Table 9.1, Land Use Compatibility for Community Noise Environments, may be used to assess the compatibility of proposed land uses with the noise environment. These criteria are the basis for specific Noise Standards. These standards, shown in GP Table 9.2, Interior and Exterior Noise Standards, are the General Plan policy for acceptable noise exposure. They are the primary tools that allow the City to ensure integrated planning for compatibility between land uses and outdoor noise.

Mitigation through the design and construction of a noise barrier (wall, berm, or combination wall/berm) is the most common way of alleviating traffic noise impacts. A noise barrier effect occurs when the "line of sight" between the source and receiver is penetrated by the barrier. The greater the penetration, the greater the noise reduction.

The most effective method to control community noise impacts from non-transportation noise sources is through application of a Community Noise Ordinance. A Noise Ordinance is designed to protect residential areas from stationary noise sources. The noise levels encouraged by the ordinance are typical of a quiet residential area. The City will consider a new Community Noise Ordinance, as noted below in Policy 9.0L.

Guiding Policies: Noise

9.0a Protect public health and welfare by eliminating existing noise problems where feasible and by preventing significant degradation of the future acoustic environment.

9.0b Incorporate noise considerations into land use planning decisions.

GP Table 9.1
Noise/Land Use Compatibility Matrix

Land Use Categories		Community Noise Equivalent Level CNEL						
Categories	Uses	≤60	65	70	75	80	85≥	
RESIDENTIAL	Single Family, Duplex Multiple Family	A	B	C	C	D	D	D
RESIDENTIAL	Mobile Homes	A	A	B	C	C	D	D
COMMERCIAL Regional, District	Hotel, Motel, Transient Lodging	A	A	B	B	C	C	D
COMMERCIAL Regional, Village District, Special	Commercial Retail, Bank, Restaurant, Movie Theater	A	A	A	A	B	B	C
COMMERCIAL INDUSTRIAL INSTITUTIONAL	Office Building, Research & Dev., Professional Offices, City Office Building	A	A	A	B	B	C	D
COMMERCIAL Recreation INSTITUTIONAL Civic Center	Amphitheater, Concert Hall, Auditorium, Meeting Hall	B	B	C	C	D	D	D
COMMERCIAL Recreation	Childrens Amusement Park, Miniature Golf Course, Go-cart Track, Equestrian Center, Sports Club	A	A	A	A	B	B	B
COMMERCIAL General, Special INDUSTRIAL, INSTITUTIONAL	Automobile Service Station, Auto Dealership, Manufacturing, Warehousing, Wholesale, Utilities	A	A	A	A	B	B	B
INSTITUTIONAL General	Hospital, Church, Library, Schools Classroom	A	A	B	C	C	D	D
OPEN SPACE	Parks	A	A	A	B	C	D	D
OPEN SPACE	Golf Course, Cemeteries, Nature Centers, Wildlife Reserves, Wildlife Habitat	A	A	A	A	B	C	C
AGRICULTURE	Agriculture	A	A	A	A	A	A	A

Continued on next page

GP Table 9.1
Interpretation

ZONE A CLEARLY COMPATIBLE	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.
ZONE B NORMALLY COMPATIBLE	New construction or development should be undertaken only after detailed analysis of the noise reduction requirements are made and needed noise insulation features in the design are determined. Conventional construction, with closed windows and fresh air supply systems or air conditioning, will normally suffice.
ZONE C NORMALLY INCOMPATIBLE	New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of noise reduction requirements must be made and needed noise insulation features included in the design.
ZONE D CLEARLY INCOMPATIBLE	New construction or development should generally not be undertaken.

Source: Mestre Greve Associates; Guidelines for the Preparation and Content of the Noise Element of the General Plan, prepared by the California Department of Health Services in coordination with The Governor's Office of Planning and Research. Adapted to the City of Redlands' standards.

GP Table 9.2
Interior and Exterior Noise Standards

LAND USE CATEGORIES		ENERGY AVERAGE CNEL	
Categories	Uses	Interior[1]	Exterior[2]
RESIDENTIAL	Single Family, Duplex, Multiple Family	45[3] 55[4]	65
	Mobile Home	---	65[5]
COMMERCIAL INDUSTRIAL INSTITUTIONAL	Hotel, Motel, Transient Lodging	45	65[6]
	Commercial Retail, Bank Restaurant	55	---
	Office Building, Research & Development, Professional Offices, City Office Building	50	---
	Amphitheater, Concert Hall, Auditorium, Meeting Hall	45	---
	Gymnasium (Multipurpose)	50	---
	Sports Club	55	---
	Manufacturing, Warehousing, Wholesale, Utilities	60	---
	Movie Theaters	45	---
INSTITUTIONAL	Hospital, Schools classrooms	45	60
OPEN SPACE	Parks	—	60

GP Table 9.2
Interior and Exterior Noise Standards
Interpretation

1 Indoor environment excluding bathrooms, toilets, closets, corridors.

2 Outdoor environment limited to private yard of single family; multifamily private patio or balcony which is served by a means of exit from inside; mobile home park; hospital patio; park picnic area; school playground; hotel and recreational area.

3 Noise level requirement with closed windows. Mechanical ventilating system or other means of natural ventilation shall be provided as of Chapter 12, Section 1205 of UBC.

4 Noise level requirement with open windows, if they are used to meet natural ventilation requirement.

5 Exterior noise level should be such that interior level will not exceed 45 CNEL.

6 Except those areas affected by aircraft noise.

See also Policy 9-s.
Source: Mestre Greve Associates.

9.0c Support measures to reduce noise emissions by motor vehicles, aircraft, and trains.

The most efficient and effective means of controlling noise from transportation systems is reducing noise at the source. However, the City has little direct control over source noise levels because of State and federal preemption (i.e., State Motor Vehicle Noise Standards). Cooperative efforts with State and federal offices are essential.

9.0d Adopt and enforce a Community Noise Ordinance to control non-transportation noise impacts.

Implementing Policies: Noise

9.0e Use the criteria specified in GP Table 9.1 to assess the compatibility of proposed land uses with the projected noise environment, and apply the noise standards in GP Table 9.2, which prescribe interior and exterior noise standards in relation to specific land uses. Do not approve projects that would not comply with the standards in GP Table 9.2.

These tables are the primary tools which allow the City to ensure noise-integrated planning for compatibility between land uses and outdoor noise.

9.0f Require a noise impact evaluation based on noise measurements at the site for all projects in Noise Referral Zones (B, C, or D) as shown on GP Table 9.1 and on GP Figure 9.1 or as determined from tables in the Appendix, as part of the project review process. Should measurements indicate that unacceptable noise levels will be created or experienced, require mitigation measures based on a detailed technical study prepared by a qualified acoustical engineer (i.e., a Registered Professional Engineer in the State of California with a minimum of three years experience in acoustics).

9.0g Consider establishing a periodic noise monitoring program to identify progress in achieving noise abatement objectives and to perform necessary updating of the Noise Element and community noise standards.

The California Department of Health Services recommended that noise elements be updated every five years.

9.0h Minimize potential transportation noise through proper design of street circulation, coordination of routing, and other traffic control measures.

9.0i Require construction of barriers to mitigate sound emissions where necessary or where feasible, and encourage use of walls and berms to protect residential or other noise sensitive land uses that are adjacent to major roads, commercial, or industrial areas.

9.0j Require the inclusion of noise mitigation measures in the design of new roadway projects.

9.0k Ensure the effective enforcement of City, State and federal noise levels by all appropriate City departments.

9.0l Adopt and enforce a new Community Noise Ordinance to mitigate noise conflicts between adjacent land uses, to ensure that City residents are not exposed to excessive noise levels from existing and new stationary noise sources, and to educate the public regarding noise issues.

A Community Noise Ordinance establishes noise limits, typical of a quiet residential area, that can not be exceeded at the property line of the noise-creating use. The types of noise to be controlled include sources such as amplified sound, street sales, animals, construction and demolition, vibration, powered model vehicles, emergency signaling devices, power tools, air conditioning, and vehicles on private property.

9.0m Designate one agency or department in the City to act as the noise control coordinator, to ensure the continued operation of the City's noise enforcement efforts, and to establish and maintain coordination among the City agencies involved in noise abatement.

9.0n Ensure the effective enforcement of City, State, and federal noise levels by all appropriate City departments, and provide quick response to complaints and rapid abatement of noise nuisances within the scope of the City's police power.

9.0o Establish noise guidelines for City purchasing policy to take advantage of federal regulations and labeling requirements.

9.0p Coordinate with the California Occupational Safety and Health Administration (Cal-OSHA) to provide information on and enforcement of occupational noise requirements within the City.

9.0q Provide for continued evaluation of truck movements in the City to provide effective separation from residential or other noise sensitive land uses.

9.0r Encourage the enforcement of State Motor Vehicle noise standards for cars, trucks, and motorcycles through coordination with the California Highway Patrol and Redlands Police Department.

9.0s Require mitigation to ensure that indoor noise levels for residential living spaces not exceed 45 dB LDN/CNEL due to the combined effect of all exterior noise sources.

The Uniform Building Code (specifically, the California Administrative Code, Title 24, Part 6, Division T25, Chapter 1, Subchapter 1, Article 4, Sections T25-28) requires that "Interior community noise levels (CNEL/LDN) with windows closed, attributable to exterior sources shall not exceed an annual CNEL or LDN of 45 dB in any habitable room." The code requires that this standard be applied to all new hotels, motels, apartment houses and dwellings other than detached single-family dwellings.

Policy 9-s sets the maximum acceptable interior noise level at 45 CNEL. The Noise Referral Zones (65 CNEL) delineate areas within which tests to ensure compliance are to be required for new structures.

9.0t Require proposed commercial projects near existing residential land use to demonstrate compliance with the Community Noise Ordinance prior to approval of the project.

9.0u Require all new residential projects or replacement dwellings to be constructed near existing sources of non-transportation noise (including but not limited to commercial facilities or public parks with sports activities) to demonstrate via an acoustical study conducted by a Registered Engineer that the indoor noise levels will be consistent with the limits contained in the Community Noise Ordinance.

9.0v Consider the following impacts as possibly "significant":

- An increase in exposure of four or more dB if the resulting noise level would exceed that described as clearly compatible for the affected land use, as established in GP Table 9.1 and GP Table 9.2;

- Any increase of six dB or more, due to the potential for adverse community response.

9.0w Limit hours for all construction or demolition work where site-related noise is audible beyond the site boundary.

9.0x Work with Caltrans to establish sound walls along freeways where appropriate.

9.0y Minimize impacts of loud trucks by requiring that maximum noise levels due to single events be controlled to 50 dB in bedrooms and 55 dB in other habitable spaces.

9.0z Coordinate with the San Bernardino International Airport Authority to minimize potential noise impacts to the City of Redlands which may result from overflights as specific airport operations and flight patterns are established.

10.0 HUMAN SERVICES ELEMENT

REDLANDS GENERAL PLAN

Guiding Policies: Family Needs

10.20a Ensure that the City will consider and respect the impact that its plans, codes, regulations, and ordinances will have on the family.

It is in the interest of the City to nurture the family unit and to be aware of the effect of City policies on day care, housing, recreation, health and schools.

10.20b Make the City a model for other employers by maintaining personnel policies which support the family needs of its employees.

Implementing Policies: Family Needs

10.20c Develop and adopt a family policy for the City of Redlands.

10.20d Develop a plan for partnership with public and private entities to ensure adequate family support programs and recreational opportunities which are affordable and accessible.

10.30 Day Care

Guiding Policies: Day Care

10.30a Integrate day care needs for children and frail elderly citizens in multigenerational settings into the planning processes of the City.

10.30b Identify and seek sources of funding for child and adult day care.

10.30c Assist the private sector in the development and coordination of day care for mildly ill children, handicapped family members, and dependent adults.

10.30d Assist the private sector in the development and coordination of day care facilities which provide services on a 24-hour basis.

10.30e Facilitate the development and acquisition of space for day care.

Implementing Policies: Day Care

10.30f Develop procedures which will expedite the necessary approvals and permits required for construction of day care facilities for children and frail elderly citizens.

10.30g Provide incentives to developers who include day care in their plans.

10.30h Develop plans to ensure that new day care centers are located in areas of the community where service is not currently or adequately provided.

10.40 Recreation

Guiding Policy: Recreation

10.40a Maximize the availability of recreational facilities and activities throughout the City.

- Maximize the availability of recreational facilities;

Implementing Policies: Recreation

10.40b Evaluate and strive to ensure that all areas of the community have equal access to recreational facilities and activities.

10.40c Seek partnerships with schools and private entities to provide more recreational opportunities for citizens.

10.40d Evaluate and consider expanding after-school recreation programs.

10.40e Require that the recreational needs of children and adults be addressed in development plans.

See related policies in Section 7.10, Parks and Recreational Open Space.

10.50 Health

Guiding Policies: Health

10.50a Promote health programs for the prevention of mental and physical illness.

10.50b Assist the private sector in developing programs to help frail elderly people and the disabled to receive the types of services that foster independence and integration into the community.

Implementing Policies: Health

10.50c Establish and coordinate community-wide education programs in the areas of substance abuse, sex education and communicable diseases.

10.50d Coordinate efforts to expand free clinic services and loaned personal medical equipment.

10.50e Support the provision of nutrition services in the City.

10.50f Establish a plan to retrofit public facilities to make them accessible to the disabled.

10.60 Education

Guiding Policies: Education

10.60a Develop and implement programs to assist youth in making successful transitions to adulthood.

10.60b Improve and increase educational opportunities for all citizens.

10.60c Utilize cable television services to the greatest extent.

10.60d Support and cooperate with the Redlands Unified School District and the University of Redlands.

See realted policies in Sections 4.91 and 4.92.

Implementing Policies: Education

10.60e Provide an emergency alert system and community programming through the cable television system.

10.60f Encourage the cable television system to provide mobile broadcast capability to cover municipal functions. City Council meetings and other community events.

10.60g Expand library services in cooperation with the Redlands Unified School District.

10.60h Coordinate and assist in the environmental education program that teaches about recycling, hazardous waste, landfills, anti-littering and water conservation.

10.60i Communicate with the Redlands Unified School District to allow for an open and effective exchange of information.

Policies concerning Redlands Unified School District may be found in Section 4.91.

11.0 ECONOMIC DEVELOPMENT ELEMENT

REDLANDS GENERAL PLAN

11.0 ECONOMIC DEVELOPMENT ELEMENT

The Economic Development Element is a source of information and a statement of public policy to aid citizens, business and industrial firms, the Planning Commission, other agencies and the City staff in making their recommendations for economic development. Further, it provides a framework to assist the City Council in developing and adopting policies and actions affecting the City's economy.

Business and industry, the major sources of jobs, personal income, and tax revenues, perform vital roles in the health of any local economy. A successful business economy can expand to meet the growing employment needs of a region's population, and, through tax contributions, enables local government to provide a wider range of public services.

City governmental policies can have important direct and indirect impacts on business and industrial decisions and operations. Transportation facilities, land use regulations, building codes, and environmental regulations are a few areas which impact the business community. Because a healthy business economy is essential to the quality of life in the City of Redlands, the General Plan will attempt to set a framework where business and industry can continue to profitably operate and expand, while minimizing any adverse effects on the community.

The Economic Development Element is specifically concerned with the creation of an overall strategy to identify development potentials that will broaden and stabilize the City's economic base.

By including an Economic Development Element in a city's General Plan, the city is in a position to regulate the type of future development envisioned for the community. It also ensures that fiscal impact is and will be included in a city's long-range policy setting relating to land use, public services, population, and growth. Economic development plans cannot be separated from the assets and values of the community and its citizens. Healthy and quality economic development may well be the mechanism by which the community goals become reality and by which the quality of life in Redlands will be maintained or enhanced.

Given the average annual population rate (3.16% per year) at which the City has been growing between 1980-1990, the economic future of the City could be questionable due to diminished residential growth and the improvements and City services provided by that type of development. It is essential, therefore, that the City maintain an aggressive role in attracting new businesses and industries, as well as retaining existing ones, that can help to fill any potential economic void, while at the same time providing local employment.

Studies indicate that currently some 40 to 50 percent of the workforce commutes outside this area for employment. Bringing jobs closer to home can mean improved air quality by reducing total vehicle miles traveled. It has been established that people shop for 20 to 30 percent of their needs in the near vicinity of their workplace. It is important, therefore to expand Redlands' employment base and thereby secure a larger daytime population in the City.

City policies on economic development deal with the needs of the existing business community, efforts to attract new employers into the City and actions needed to maintain an educated and skilled labor force to meet industry needs.

Guiding Policies: Economic Development

11.0a Promote a climate conducive to economic growth and rejuvenation to enhance employment and investment opportunities without sacrificing environmental standards.

11.0b Seek varied, convenient, high quality office and other commercial uses appropriate to Redlands to support the projected population.

11.0c Adhere to sound development standards to protect the investment of existing and future

commercial and industrial areas.

11.0d Encourage coordination and balance between economic development and all other aspects of community life.

11.0e Attract business and industry by providing a wide range of urban amenities and services throughout the City.

11.0f Establish the appropriate organizational structure for fostering balanced economic development in the City of Redlands.

Implementing Policies: Economic Development

11.0g Assist in the expansion and retention of existing businesses and industries.

11.0h Encourage and attract specific types of businesses.

11.0i Anticipate the demand for commercial and industrial growth and employ governmental mechanisms to maintain a choice of sites, including large parcels, as an attraction to major employers.

11.0j Through cooperation and support, encourage development of a labor force with skills to meet the needs of the area's businesses and industries.

11.0k Promote redevelopment and rehabilitation of older commercial and industrial areas to make them more efficient, accessible, aesthetically appealing, and economically viable.

11.0l Encourage the location of commercial centers according to function and scale of the particular development so that centers of different scales complement one another and each is accessible to the primary market it is designed to serve.

11.0m Discourage independent commercial development extending along street frontages characterized by multiple curb cuts, proliferation of free-standing signs, congested traffic movement, and poor design features.

11.0n Strengthen and coordinate the City's economic development information and share this information within the Inland Empire as part of an enhanced effort to improve the competitive positions of both the City and the region.

Industrial and business locational decisions are based in large part on information concerning individual sites (zoning, access, development process, utilities), and the region (labor force, housing, schools, amenities). To compete with other metropolitan areas, the region needs an accurate and coordinated data base to provide this information.

11.0o Support and assist the long-term development of Redlands Airport and promote complementary land uses surrounding the airport.

11.0p Support design and development of a transportation system to service the business and industrial needs of the Planning Area in order to minimize congestion and circuitous travel.

APPENDICES

REDLANDS GENERAL PLAN

APPENDIX A - GLOSSARY

Acoustical Engineer An engineer specializing in the measurement and physical properties of sound. In environmental review, the acoustical engineer measures noise impacts of proposed projects and designs measures to reduce those impacts.

Acre-Foot The volume of water that would cover one acre to a depth of one foot. An acre-foot is equal to 326,000 gallons, about the amount of water used each year in and around the home by an average California family.

Acre, Net See Net Acre.

ADT Average daily traffic, a two-directional 24-hour traffic volume.

Affordable Housing Dwelling units for which the housing payment is not more than 30 percent of household gross income for a specified income group.

AIC Archaeological Information Center, housed in the San Bernardino County Museum.

Airport Land Use Commission (ALUC) The county-level body, established pursuant to the State ALUC law, responsible for developing plans for achieving land use compatibility between airports and their environs. Assembly Bill 2831, September 19, 1994, allows alternatives to the formation of an ALUC if certain conditions are met.

Alluvium A general term for clay, silt, sand, gravel, or similar unconsolidated detrital material deposited during comparatively recent geologic time by a stream or other body of running water as a sorted or semi-sorted sediment in the bed of the stream or on its flood plain or delta, or as a cone or fan at the base of a mountain slope.

Alquist-Priolo Earthquake Fault Zones A seismic hazard zone designated by the State of California within which specialized geologic investigations must be prepared prior to approval of certain new development.

APZ Accident Potential Zone.

AQMP Air Quality Management Plan.

Army Corps of Engineers A federal agency responsible for the design and implementation of publicly-supported engineering projects; any construction activity that involves filling a watercourse, pond, lake (natural or man-made), or wetlands (including seasonal wetlands and vernal pools), may require an Army Corps permit.

Arterials Arterials provide circulation between major activity centers and residential areas, and also provide access to freeways. They are further subdivided into two categories, major and minor arterials, as described in GP Section 5.30.

Artificial Groundwater Recharge	The process whereby water in an aquifer (a waterbearing stratum of permeable rock, sand, or gravel) is artificially replenished.
Avigation Easement	A recorded right to overfly a parcel granted to an airport owner.
Base Flood Elevation	The highest elevation, expressed in feet above sea level, of the level of flood waters occurring in the regulatory base flood. The base flood elevation represents the worst flooding experience in a community or an area.
Bedrock	The solid rock underlying unconsolidated surface materials.
Bike Lane	A corridor expressly reserved by markings for bicycles, existing on a street or roadway in addition to any lanes for use by motorized vehicles (Class II Bikeway).
Bike Path	A paved route not on a street or roadway, expressly reserved for bicycles. Bike paths may parallel roads but typically are separated from them by landscaping (Class I Bikeway).
Bike Route	A facility shared with motorists and identified only by signs. A bike route may or may not have pavement markings or lane stripes (Class III Bikeway).
BMR	Below Market Rate. BMR housing is subsidized to make it available to households that cannot afford current market price.
Borings	The process of making a hole in the earth and extracting material for analysis of its composition. By generalizing a finding over a wider area, it is possible to determine the relative stability of a site.
Buildout	That level of urban development characterized by full occupancy of all developable sites in accordance with the General Plan; the maximum level of development envisioned by the General Plan. Buildout does not assume that each parcel is developed to include all floor area or housing units possible under zoning regulations.
Caltrans	California Department of Transportation.
CALUP	Comprehensive Airport Land Use Plan.
Capital Improvement Program (CIP)	The multi-year scheduling of public physical improvements based on studies of fiscal resources available and the choice of specific improvements to be constructed.
CARB	California Air Resources Board.
Carbon Monoxide (CO)	An odorless, colorless gas formed by the incomplete combustion of fuels; roughly 80 percent of Bay Area CO emissions are estimated to be from motor vehicles.
CDBG	Federal Community Development Block Grant.
CDFFP	California Division of Forestry and Fire Protection.

CEQA California Environmental Quality Act.

City The City of Redlands.

Class I Bikeway See Bike Path.

Class II Bikeway See Bike Lane.

Class III Bikeway See Bike Route.

Class I Disposal Site Sites at which complete protection for the quality of groundwaters, surface waters, public health, and wildlife resources is provided for all time from wastes deposited therein. These sites are designated as capable of accepting for disposal Group 1, 2, and 3 wastes.

Class II Disposal Site Sites at which protection to groundwaters, surface waters, public health, and wildlife resources is provided from Group 2 and 3 wastes.

Class III Disposal Site Sites at which protection to water quality is provided from Group 3 wastes by location, construction, and operation which prevent erosion of deposited material.

CMP Congestion Management Program, mandated by State Law.

CNDDB California Natural Diversity Data Base, Department of Fish and Game.

Collectors Collectors have the important function of collecting traffic from residential and commercial areas and channeling it to arterials. They are typically fronted by residences, commercial, or public activities. Collectors are usually two-lane streets, and maximum acceptable volumes are dictated by resident concerns about intrusion rather than traffic capacity considerations.

Commercial Strip A retail and service commercial area extending along an arterial street.

Community Noise Equivalent Level (CNEL) A 24-hour energy equivalent level derived from a variety of single-noise events, with weighting factors of 5 and 10 dB applied to the evening (7:00 to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) periods, respectively, to allow for the greater sensitivity to noise during those hours. An alternative measure is day-night average sound level (Ldn). The A-weighted average sound level for a given area (measured in decibels) during a 24-hour period with a 10dB weighting applied to nighttime sound levels. The Ldn is approximately numerically equal to the CNEL for most environmental settings.

Conservation The management of natural resources to prevent waste, destruction, or neglect.

Critical Facility Facilities having a vital role in a potential emergency, the failure of which might prove catastrophic.

Culvert A drain, ditch or conduit not incorporated in a closed system that carries drainage water under a driveway, roadway, railroad, pedestrian walk or public way. Culverts are often built to channelize streams and as part of flood control systems.

Curb Cut The opening along the curb line at which point vehicles or other wheeled forms of transportation may enter or leave the roadway. Curb cuts are essential at street corners for handicap use.

DBCP Dibromochloropropane, a syrupy toxin added to citrus water over 30 years ago for treatment of nematodes, and banned by the EPA in 1979.

Decibel (dB) A unit used to express the relative intensity of a sound as it is heard by the human ear. The decibel measuring scale is logarithmic. Zero (0 dB) on the scale is the lowest sound level that a normal ear can detect under very quiet ("laboratory") conditions and is referred to as the "threshold" of human hearing. On the logarithmic scale, 10 decibels are 10 times more intense, 20 decibels are 100 times more intense, and 30 decibels are 1,000 times more intense than 1 decibel. See also Decibel "A-Weighted."

Decibel "A-Weighted" (dBA) The scale for measuring sound in decibels that weights or reduces the effects of low and high frequencies in order to simulate human hearing. See also Decibel.

DEIR Draft Environmental Impact Report.

Density, Base The allowable residential density range for a General Plan land use classification, excluding any density bonus.

Density Bonus An increase in allowable density above base density granted in exchange for providing affordable or senior housing.

Density, Gross The number of housing units on a site divided by the total developable area of the site exclusive of drainages, power transmission easements, or other public or semipublic uses, measured to the centerline of abutting streets having a right-of-way of 100 feet or less. Streets having a right-of-way exceeding 100 feet are assumed to be 100 feet wide for the purpose of density calculation. Streets, whether public or private, within a site to be developed are included within gross acreage.

Density, Net The number of dwelling units per acre of developable residential land in a site, exclusive of public and private streets, drainage, power-transmission-line easements, or other public and semipublic uses.

Density, Transfer The transfer of density calculated as suitable if applied to all developable portions of a site is transferred to allow development of the same number of housing units on a portion of the site with remaining site area restricted as permanent open space.

Design Review The process whereby projects are reviewed for compliance with established design guidelines.

Development Fees Direct charges or dedications collected on a one-time basis for a service provided or as a condition of approval being granted by the local government. The purpose of the fee or exaction must directly relate to the need created by the development. In addition, its amount must be proportional to the cost of the service or improvement. Fees can be broken down into two major classes: 1) service charges such as permit fees covering the cost of processing development plans, connection or standby fees for installing utilities or application fees for reviewing and considering development proposals; and 2) "impact"

fees levied on new development to cover the cost of infrastructure or facilities necessitated by development.

DFG State of California, Department of Fish and Game.

DHS State of California, Department of Health Services.

DMG State of California, Division of Mines and Geology.

Dwelling Unit (du) A building or portion of a building containing one or more rooms, designed for or used by one family for living or sleeping purposes, and having a separate bathroom and only one kitchen or kitchenette. See Housing Unit.

Ecotone A transition area between two adjacent ecological communities usually exhibiting competition between organisms common to both; often a rich biological area.

Effluent A liquid discharged as waste, such as the outflow from a sewage treatment facility or storm sewer.

EIR (Environmental Impact Report) A report on the effect of a proposed development proposal or other major action which would significantly affect the environment. The report consists of an inventory of existing environmental conditions, projected impacts of development, and mitigation for significant adverse impacts, as required by CEQA. A General Plan EIR is necessarily more general than a site-specific EIR.

ELF Extremely low frequency electromagnetic fields.

Endangered Species, California A native species or sub-species of a bird, mammal, fish, amphibian, reptile, or plant, which is in serious danger of becoming extinct throughout all or a significant portion of its range, due to one or more factors, including loss in habitat, change in habitat, over-exploitation, predation, competition, or disease. The status is determined by the State Department of Fish and Game together with the State Fish and Game Commission.

Endangered Species, Federal A species which is in danger of extinction throughout all or a significant portion of its range, other than the species of the Class Insecta determined to constitute a pest whose protection under the provisions of the 1973 Endangered Species Act, as amended, would present an overwhelming and overriding risk to humans. The status is determined by the U.S. Fish and Wildlife Service and the Department of the Interior.

EPA Environmental Protection Agency.

Epicenter That point on the Earth's surface which is directly above the focus of an earthquake.

Erosion The process by which soil and rock are detached and moved by running water, wind, ice, and gravity.

EVC East Valley Corridor.

FAR Floor Area Ratio. The ratio between gross floor area of structures on a site and gross site area. Thus, a two-story building covering 50 percent of its site would have a FAR

of 1.0.

Fault A surface or zone of rock fracture along which there has been displacement, from a few centimeters to a few kilometers in scale.

Federal Candidate Species, Category 1 (Candidate 1) Species for which the U.S. Fish and Wildlife Service has sufficient biological information to support a proposal to list as Endangered or Threatened.

Federal Candidate Species, Category 2 (Candidate 2) Species for which existing information indicates that these species may warrant listing, but for which substantial biological information to support a proposed rule is lacking.

Federal Flood Insurance Affordable flood insurance offered by the federal government to property owners whose communities participate in the National Flood Insurance Program. Redlands is a participant.

FEIR Final Environmental Impact Report.

FEMA Federal Emergency Management Agency.

500-year flood A flood which has a 0.2 percent chance of occurrence in any given year.

Floor Area, Gross The total horizontal area in square feet of all floors within the exterior walls of a building, but not including the area of unroofed inner courts or shaft enclosures.

Freeways Freeways are high speed, high capacity limited access facilities serving intercity and regional travel.

General Plan A comprehensive, long-term plan mandated by State Planning Law for the physical development of a city or county and any land outside its boundaries which, in its judgment, bears relation to its planning. The plan shall consist of seven required elements: land use, circulation, open space, conservation, housing, safety, and noise. The plan must include a statement of development policies and a diagram or diagrams illustrating the policies.

Greenhouse Effect The gradual warming of the Earth's atmosphere attributed to the accumulation of gases caused by industrial and agricultural activities. Associated phenomena include the melting of the polar ice caps and rising sea levels.

Group 1 Wastes Consist of or contain toxic substances and substances which could significantly impair the quality of usable waters. Examples are acids, alkalies, pesticides, and chemical toilet wastes.

Group 2 Wastes Consist of or contain chemically or biologically decomposable material, which does not include toxic substances nor those capable of significantly impairing the quality of usable waters. Examples are garbage, rubbish, street refuse, dead animals, and agricultural crop residues.

Group 3 Wastes Consist entirely of nonwater soluble, nondecomposable inert solids. Examples are dirt, rock, concrete, and asphalt.

Guiding Policies The City's statements of its goals and philosophy.

Habitat The natural environment of a plant or animal.

Hardscape Rigid portions of the urban landscape, including the surfaces of streets and sidewalks, structures, and underground utilities.

Hazardous Waste Waste which requires special handling to avoid illness or injury to persons or damage to property. Includes, but is not limited to, inorganic mineral acids of sulfur, fluorine, chlorine, nitrogen, chromium, phosphorous, selenium and arsenic and their common salts; lead, nickel, and mercury and their inorganic salts or metallo-organic derivatives; coal, tar acids such as phenol and cresols and their salts; and all radioactive materials.

High Occupancy Vehicle Lanes (HOV) Traffic lanes that are permanently or periodically restricted by law to vehicles with two, three, or more occupants.

Historic and Scenic District A significant neighborhood, agricultural or passive recreational open space, enclave or collection of historical buildings that may have been part of one settlement, architectural period, or era of development.

Historic or Scenic Thematic Collection A historic or scenic thematic collection is a collection of significant sites or buildings which are not necessarily located together in the same geographical area, but are linked by a historical or architectural theme.

Historic Property A historic property is a structure or site that has significant historic, architectural, or cultural value.

Household Person or persons living in one dwelling unit.

Housing Payment For ownership housing, this is defined as the mortgage payment, property taxes, insurance and utilities. For rental housing this is defined as rent and utilities.

Housing Unit, Multifamily A dwelling unit in a structure designed and/or used to house three or more families living independently of each other.

Housing Unit, Single Family Detached A dwelling unit that is structurally independent from any other residential unit.

Housing Unit, Single Family Attached A dwelling unit that is separated from one or more adjoining dwelling units by a structural wall extending from ground level to the roof and having a separate heating system. This housing type includes duplexes, triplexes, townhouses, and condominiums. (This definition is adapted from the U.S. Census.)

Implementing Policies The City's statements of its commitments to consistent actions.

Impervious Surface Any material which reduces or prevents absorption of water into land.

Income, Above-Moderate A household whose income exceeds 120 percent of the county median.

Income, Low A household whose income does not exceed 80 percent of the county median.

Income, Median The county-wide median income for a four-person household, as defined by the United States Department of Housing and Urban Development and the California Department of Housing and Community Development.

Income, Moderate A household whose income is between 81 and 120 percent of the median family income for the county.

Income, Very-Low A household whose income does not exceed 50 percent of the median family income for the county.

Infill The development of new housing or other buildings on scattered vacant lots in a built-up area or on new building parcels created by permitted lot splits.

Inversion Temperature inversions limit the amount of vertical mixing of air and thus trap pollutants in the lower atmosphere where people breathe. Inversions are characterized by a layer of warmer air above a layer of cooler air, a reversal of the normal decline in temperature with increasing altitude.

Jobs-Housing Balance A ratio used to describe the adequacy of the housing supply within a defined area to meet the needs of persons working within the same area. The General Plan uses SCAG's definition which is a job total equal to 1.2 times the number of housing units within the area under consideration.

Landmark Defined as a building, site, or area with exceptional character or exceptional historic or aesthetic interest or value as part of the development, heritage, or cultural characteristics of the City, State, or Nation.

Landslide The downslope movement of soil and rock.

Leachate A solution obtained by leaching; e.g., water that has percolated through soil containing soluble substances and that contains certain amounts of substances in solution.

Liquefaction A sudden large decrease in the shearing resistance of a cohesionless soil, caused by a collapse of the structure by shock or strain, and associated with a sudden but temporary increase of the pore fluid pressure.

Local Streets Local streets have the sole function of providing access to adjoining land uses. All streets not depicted on the circulation plan are local streets.

LOS Traffic Level of Service calculated on the basis of a volume-to-capacity ratio of an intersection.

MEA Master Environmental Assessment.

Measure N/ Proposition R Redlands' initiative Measure N, passed in November 1987, is a zoning ordinance amending Proposition R, which purports to set specific limits on residential density and the rate of residential growth in Redlands. As amended by Measure N, Proposition R, a zoning ordinance, allows a maximum 400 dwelling units to be added to the City each year, with no carry-over for unused allocation. Up to 50 of the units are to be single-family homes on existing lots, with the remainder to be allocated according to a point system. Sewer or water service may be extended to an additional 150 units per year (no carry-over) within the Sphere of Influence, consistent with the City's General Plan. No land designated by the current General Plan as urban reserve is to be redesignated for a higher density than one dwelling unit per 14,000 square feet of net site area, except by a four-fifths vote of the City Council with findings. The City must prepare a plan for the ultimate development of the Sphere of Influence and may approve annexations only if they are consistent with the Plan.

Mitigation A specific action taken to reduce environmental impacts. Mitigation measures are required as a component of an environmental impact report (EIR) if significant impacts are identified.

MRZ Mineral Resource Zone.

Net Acre (See also Density, Net.) As used to calculate Floor Area Ratio (FAR), the area of a lot exclusive of land used or to be used for public or private streets or other rights-of-way, and land restricted to open space use by means other than transfer of FAR.

Nitrogen Dioxide (NO2) A reddish brown gas that is a byproduct of the combustion process and is a key to the ozone production process.

Noise Contour(s) Isolines (a line on a map or chart along which there is a constant value) representing noise, measured in decibels. See also Community Noise Equivalent Level.

Non-point Source A pollutant source introduced from dispersed points and lacking a single, identifiable origin. Examples include automobile emissions or urban run-off.

NPSC Program Non-point source control program.

Omnitrans The transit agency which serves the SANBAG area, including the City of Redlands.

100-year Flood That flood event which has a 1-percent chance of occurrence in any one year.

Open Space Any parcel or area of land or water devoted or committed to an open-space use as defined in the General Plan.

Oxidant The production of photochemical reactions in the atmosphere between reactive organic gases and oxides of nitrogen.

Ozone An oxidant, O3, that makes up the largest single portion of smog.

Parcel	A lot or tract of land.
Particulate Matter	Minute, separate airborne solid or liquid particles including smoke, dust, aerosols, metallic oxides, and pollen.
PCB	Polychlorinated biphenyl, a highly toxic, petroleum-based compound used in the past as an insulating and lubricating product.
Peak Hour Traffic	The number of vehicles passing over a designated section of a street during the busiest one-hour period during a 24-hour period.
Planning Sector	The Redlands Planning Area is divided into seven planning sectors to facilitate description. Planning sectors are aggregations of the 73 Traffic Area Zones (TAZs), and are shown on GP Figure 1.4.
Point Source	A source of pollutants which may be traced to a point of emissions.
Population Holding Capacity	The population that would result if all vacant land designated for residential use within the City were built at the average density for the designated General Plan density category.
Proposition R	See "Measure N"
Reclaimed Wastewater	Treated sewage or excess irrigation water with chlorine or other chemical disinfectants added.
Response Time	The amount of time for an emergency services response, measured from the time of the distress call until arrival on the scene.
Retention Area	A pond, pool, lagoon, or detention basin used for the storage of water runoff.
Right-of-Way	A strip of land acquired by reservation, dedication, forced dedication, prescription or condemnation, and intended to be occupied or actually occupied by a road, crosswalk, railroad, electric transmission lines, oil or gas pipeline, water line, sanitary storm sewer or other similar use.
Riparian Habitat	Land and plants bordering a water course.
RIVSAN	Riverside-San Bernardino County traffic model.
RWQCB	Regional Water Quality Control Board.
SANBAG	San Bernardino Associated Governments.
SBCAPCD	San Bernardino County Air Pollution Control District.
SBVMWD	San Bernardino Valley Municipal Water District.
SCAG	Southern California Association of Governments.
SCAQMD	South Coast Air Quality Management District.

SCS United States Department of Agriculture, Soil Conservation Service.

Seiche Oscillation of the surface of an enclosed body of water owing to earthquake shaking.

Sensitive Receptors Members of the population who are most sensitive to air quality include children, the elderly, the acutely ill, and the chronically ill. The term "sensitive receptors" can also refer to the land use categories where these people live or spend a significant amount of time. Such areas include residences, schools, playgrounds, child care centers, hospitals, retirement homes, and convalescent homes.

Siltation The process of silt deposition. Silt is a loose sedimentary material composed of finely divided particles of soil or rock, often carried in cloudy suspension in water.

SMARA Surface Mining and Reclamation Act of 1975.

Solid Waste Unwanted or discarded material, including garbage, with insufficient liquid content to be free flowing.

Specific Plan A detailed plan that includes the text and maps or diagrams generally specifying the following for a portion of the area covered by the General Plan:

1. Land use;
2. Distribution, location, and extent and intensity of major components of public and private transportation, sewage, water, drainage, solid waste disposal, energy, and +other essential facilities;
3. Standards and criteria by which development will proceed; and
4. A program of implementation measures including regulations, programs, public-works projects, and financing measures.

A specific plan must be consistent with the General Plan.

SSZ Special Studies Zones, as defined under the Alquist-Priolo Special Studies Zone Act, 1973.

Subdivision The division of a lot, tract, or parcel of land into two or more lots, tracts, parcels, or other divisions of land for sale, development, or lease.

Subsidence The gradual sinking of land as a result of natural or man-made causes.

Substrate; Substratum The material of which something is made and from which it derives its special qualities.

SWP State Water Project.

TAZ Traffic Analysis Zone. Data units used for land use and traffic analysis.

TCE Trichloroethylene, an organic compound formerly used as an industrial solvent and heat-transfer medium.

TDM Travel demand management.

The "Project" In the EIR, the "Project" is "buildout in accord with Redlands General Plan."

The "No Project" Alternative In the EIR, the "No Project" alternative evaluates existing conditions in the City.

Threatened Species, California A native species or sub-species of a bird, mammal, fish, amphibian, reptile, or plant that, although not currently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of special protection and management efforts required by Chapter 1.5 of the State Department of Fish and Game Code.

Threatened Species, Federal A species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Transit Public transportation provided by van, bus, or rail vehicle.

Trip A one-way journey that proceeds from one origin to one destination. Each trip has two trip ends.

Trip-Generation Rate The number of vehicle trips per acre, per 1,000 square feet of floor area, per housing unit or other unit of measure during a stated period. Measured trip-generation rates are used to project the impact of development on the traffic circulation system and as a basis for regulating the intensity of development.

TSM Transportation Systems Management measures to reduce the number of single-occupant vehicle trips during peak hours.

Urban Conservation District An urban conservation district is a residential or commercial neighborhood which meets the designation criteria, but contains a significant proportion of non-historic properties, and which the City wishes to maintain and revitalize.

USDA United States Department of Agriculture.

USFS United States Fish and Wildlife Service.

USGS United States Geological Survey.

USGS Quadrangles A U.S. Geological Survey-produced map showing natural and cultural features for an area extending across 15 minutes of longitude and 7.5 minutes of latitude.

Volume to Capacity (V/C) Ratio A measure of the operating capacity of a roadway or intersection, in terms of the number of vehicles passing through, divided by the number of vehicles that theoretically could pass through when the roadway or intersection is operating at its designed capacity.

Waste Stream All solid, semisolid and liquid wastes including garbage, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semisolid wastes.

Waterway A natural waterway can support its own environment of vegetation, fowl, fish, and reptiles, and appears natural.

Wetlands Transitional areas between terrestrial and aquatic systems, where the water table is usually at or near the surface, or the land is covered by shallow water. Under a unified methodology now used by Federal agencies, wetlands are defined as "those areas meeting certain criteria for hydrology, vegetation, and soils."

Williamson Act Known formally as the *California Land Conservation Act of 1965*, it was designed as an incentive to retain prime agricultural land and open space in agricultural use, thereby slowing its conversion to urban and suburban development. The program entails a ten-year contract between the City or County and an owner of land whereby the land is taxed on the basis of its agricultural use rather than its market value. The land becomes subject to certain enforceable restrictions, and certain conditions need to be met prior to approval of an agreement.

Xeric Vegetation requiring only a small amount of moisture.

Zanja Known locally as the "Sankee," this canal was excavated by Native Americans in the 19th century, under the direction of missionaries. The channel receives water from Mill Creek and traverses the City of Redlands.

Zoning District A specifically delineated area on a zoning map within which regulations and requirements uniformly govern the use, placement, spacing, and size of buildings, open spaces, and other facilities.

Zoning Ordinance The City ordinance which divides Redlands into districts and establishes regulations governing the use, placement, spacing, and size of buildings, open spaces, and other facilities.